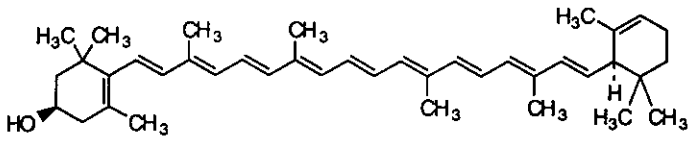
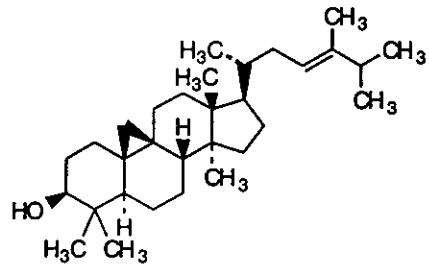
[分子式]$C_{40}H_{56}O$
[分子量]552.882
[正確な分子量]552.433115
[基原]*Capsicum annuum*, トウモロコシ(*Zea may*), モモ, プラム, 柑橘類のジュース. また*Acer* spp.からも得られる
[用途]天然食用色素
[性状]暗赤色の針状結晶 (C_6H_6/MeOH)
[融点]Mp 175-176 ℃ (157.5-158.5 ℃)
[比旋光度]:[α]$_D^{25}$ -508.3 (c, 0.36 in Me_2CO)



----------文献----------

Bodea, C. et al., Annalen, 1959, 622, 188, (分離)
Petzold, E.N. et al., Arch. Biochem. Biophys., 1960, 86, 163, (分離)
Stewart, I. et al., J. Agric. Food Chem., 1977, 25, 1132, (生育)
Bodea, C. et al., Phytochemistry, 1978, 17, 2037, (構造決定)
Straub, O. et al., Key to Carotenoids, 2nd edn., Birkhauser Verlag, Basel and Boston, 1987, 60, (成書)

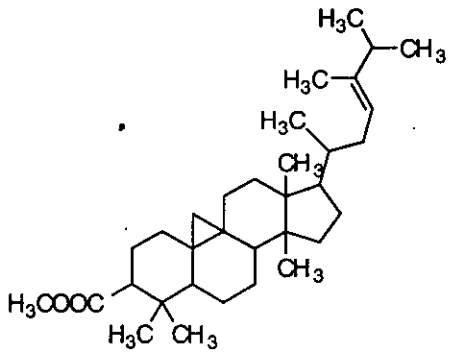
§ Cyclosadol
[化学名・別名]24-Methylcycloart-23-en-3 β-ol
[CAS No.]25850-61-7
[化合物分類]テルペノイド(Cycloartane triterpenoid)
[構造式]
[分子式]$C_{31}H_{52}O$
[分子量]440.751
[正確な分子量]440.401815
[基原]*Zea mays*
[性状]結晶(MeOH)
[融点]Mp 132-134 ℃
[比旋光度]:[α]$_D$ +41 ($CHCl_3$)



----------文献----------

Pinhas, H. et al., Bull. Soc. Chim. Fr., 1969, 2037, (分離)
Itoh, T. et al., Phytochemistry, 1981, 20, 1353, (分離, H-NMR, C13-NMR, Mas)
Guo, D. et al., Tet. Lett., 1996, 37, 6823, (生合成)

§ Cyclosadol; Ac
[化学名・別名]24-Methylcycloart-23-en-3 β-yl acetate
[CAS No.]24278-47-5
[化合物分類]テルペノイド(Cycloartane triterpenoid)
[構造式]
[分子式]$C_{33}H_{54}O_2$
[分子量]482.788
[正確な分子量]482.41238
[基原]*Zea mays*
[性状]結晶(MeOH)
[融点]Mp 121-122 ℃
[比旋光度]:[α]$_D$ +50 ($CHCl_3$)

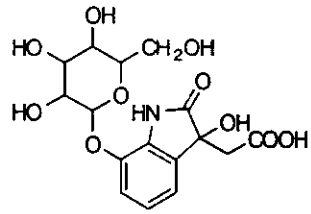


----------文献----------

Pinhas, H. et al., Bull. Soc. Chim. Fr., 1969, 2037, (分離)
Itoh, T. et al., Phytochemistry, 1981, 20, 1353, (分離, H-NMR, C13-NMR, Mas)
Guo, D. et al., Tet. Lett., 1996, 37, 6823, (生合成)

§ 2,3-Dihydro-3,7-dihydroxy-2-oxo-1*H*-indole-3-acetic acid; (*R*)-form, 7-*O*-β-D-Glucopyranoside
[化学名・別名]Zeanoside C
[CAS No.]120293-55-2
[化合物分類]アルカロイド化合物(Simple indole alkaloid)

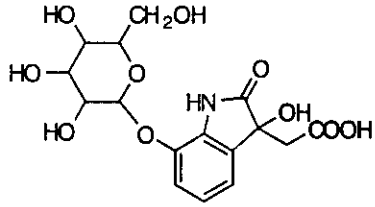
[構造式]
[分子式]$C_{16}H_{19}NO_{10}$
[分子量]385.327
[正確な分子量]385.100899
[基原]次の植物から分離: 未熟な甘いトウモロコシ粒(スイートコーン粒) *Zea mays* (イネ科)
[性状]微細結晶(EtOH)
[融点]Mp 162-163 ℃
[比旋光度]:[α]$_D$19 -162.1 (c, 0.1 in H_2O)



----------文献----------

Tateishi, K. et al., Agric. Biol. Chem., 1987, 51, 3445; 1988, 52, 3231; 1989, 53, 2545, (分離, UV, IR, H-NMR, C13-NMR, Mass, 構造決定)

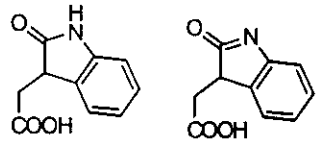
§ 2,3-Dihydro-3,7-dihydroxy-2-oxo-1*H*-indole-3-acetic acid, 7-*O*-β-D-Glucopyranoside
[化学名・別名]Zeanoside A
[CAS No.]113202-68-9
[化合物分類]アルカロイド化合物(Simple indole alkaloid)
[構造式]
[分子式]$C_{16}H_{19}NO_{10}$
[分子量]385.327
[正確な分子量]385.100899
[基原]次の植物から分離: トウモロコシ粒 *Zea mays* (イネ科)
[性状]微細な針状結晶 (EtOH)
[融点]Mp 197-198 ℃
[比旋光度]:[α]$_D$ -36.8 (c, 0.1 in H_2O)



----------文献----------

Tateishi, K. et al., Agric. Biol. Chem., 1987, 51, 3445; 1988, 52, 3231; 1989, 53, 2545, (分離, UV, IR, H-NMR, C13-NMR, Mass, 構造決定)

§ 2,3-Dihydro-2-oxo-1*H*-indole-3-acetic acid; (ξ)-form
[構造式]



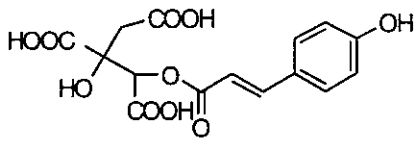
Tautomeric structures.

[基原]Prod. of catabolism of 1*H*-Indole-3-acetic acid in *Zea mays*. また *Ribes rubrum*, *Brassica* spp., *Helianthus annuus* からも分離される

----------文献----------

Kinashi, H. et al., Agric. Biol. Chem., 1976, 40, 2465, (分離)
Nonhebel, H.M. et al., J. Biol. Chem., 1985, 260, 12685, (生合成)
Takase, S. et al., Tetrahedron, 1986, 42, 5879, (合成法, IR, H-NMR)
Lower, P., J.C.S. Perkin 1, 1987, 753, (合成法, H-NMR)

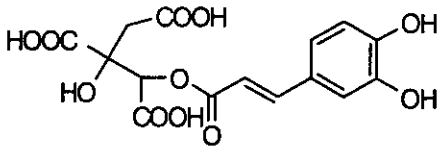
§ 1,2-Dihydroxy-1,2,3-propanetricarboxylic acid; (1*S*,2)-form, 1-*O*-(4-Hydroxycinnamoyl) (*E*-)
[化学名・別名]2-*O*-*p*-Coumaroylhydroxycitric acid
[CAS No.]62345-85-1
[化合物分類]脂肪族化合物(Branched aliphatic carboxylic acid)
[構造式]
[分子式]$C_{15}H_{14}O_{10}$
[分子量]354.27
[正確な分子量]354.0587
[基原]*Zea mays*
[性状]結晶+ 1/2H_2O (EtOAc/C_6H_6)
[融点]Mp 155 ℃で分解
[比旋光度]:[α]$_D^{22}$ +27 (c, 0.73 in H_2O)



----------文献----------

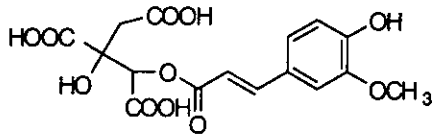
Lewis, Y.S. et al., Phytochemistry, 1965, 4, 619, (分離)
Glusker, J.P. et al., Arch. Biochem. Biophys., 1969, 13, 573, (結晶構造, 絶対構造)
Brandange, S. et al., Acta Chem. Scand., Ser. B, 1977, 31, 307, (合成法)
Ozawa, T. et al., Agric. Biol. Chem., 1977, 41, 359, (isol ester)
Perry, C.W. et al., Synthesis, 1977, 492, (分割)
Corthout, J. et al., Phytochemistry, 1992, 31, 1979, (caffeoyl ester)

§ 1,2-Dihydroxy-1,2,3-propanetricarboxylic acid; (1*S*,2)-form, 1-*O*-Caffeoyl(*E*)
[化学名・別名]2-*O*-Caffeoylhydroxycitric acid
[CAS No.]62345-87-3
[化合物分類]脂肪族化合物(Branched aliphatic carboxylic acid)
[構造式]
[分子式]$C_{15}H_{14}O_{11}$
[分子量]370.269
[正確な分子量]370.053615
[基原]*Spondias mombin, Zea mays*
[用途]抗ウイルス作用を示す
[性状]結晶(EtOAc 溶液)
[融点]Mp 158 ℃で分解
[比旋光度]:$[\alpha]_D$ +40 (H_2O)



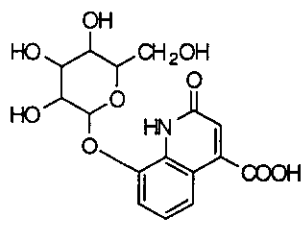
----------文献----------
Lewis, Y.S. et al., Phytochemistry, 1965, 4, 619, (分離)
Glusker, J.P. et al., Arch. Biochem. Biophys., 1969, 13, 573, (結晶構造, 絶対構造)
Ozawa, T. et al., Agric. Biol. Chem., 1977, 41, 359, (isol ester)
Corthout, J. et al., Phytochemistry, 1992, 31, 1979, (caffeoyl ester)

§ 1,2-Dihydroxy-1,2,3-propanetricarboxylic acid; (1*S*,2)-form, 1-*O*-Feruloyl(*E*)
[化学名・別名]2-*O*-Feruloylhydroxycitric acid
[CAS No.]62345-86-2
[化合物分類]脂肪族化合物(Branched aliphatic carboxylic acid)
[構造式]
[分子式]$C_{16}H_{16}O_{11}$
[分子量]384.296
[正確な分子量]384.069265
[基原]*Zea mays*
[性状]結晶(H_2O)
[融点]Mp 154 ℃で分解
[比旋光度]:$[\alpha]_D^{22}$ +25 (c, 1.06 in H_2O)



----------文献----------
Lewis, Y.S. et al., Phytochemistry, 1965, 4, 619, (分離)
Glusker, J.P. et al., Arch. Biochem. Biophys., 1969, 13, 573, (結晶構造, 絶対構造)
Ozawa, T. et al., Agric. Biol. Chem., 1977, 41, 359, (isol ester)
Perry, C.W. et al., Synthesis, 1977, 492, (分割)
Corthout, J. et al., Phytochemistry, 1992, 31, 1979, (caffeoyl ester)

§ 2,8-Dihydroxy-4-quinolinecarboxylic acid; *O*-β-D-Glucopyranoside
[化学名・別名]Zeanoside B
[CAS No.]113202-67-8
[化合物分類]アルカロイド化合物(Simple quinoline alkaloid)
[構造式]
[分子式]$C_{16}H_{17}NO_9$
[分子量]367.312
[正確な分子量]367.090334
[基原]次の植物から分離: 未熟なトウモロコシ粒 (*Zea may*)(イネ科)
[性状]僅かに黄色の針状結晶

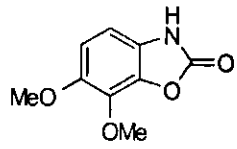


[融点]Mp 297-302 ℃
[比旋光度]:[α]$_D^{23}$ -69.4 (c, 0.1 in NH_4OH)

----------文献----------

Tateishi, K. et al., Agric. Biol. Chem., 1987, 51, 3445, (Zeanoside B)
Shibata, H. et al., Agric. Biol. Chem., 1989, 53, 849; 2545, (Zeanoside B)

§ 6,7-Dimethoxy-1(3*H*)-benzoxazolone

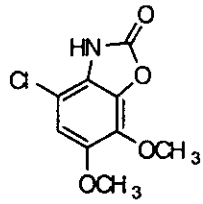


[化学名・別名]2-Hydroxy-6,7-dimethoxybenzoxazole
[化合物分類]アルカロイド化合物(Oxazole and benzoxazole alkaloid)
[構造式]
[分子式]$C_9H_9NO_4$
[分子量]195.174
[正確な分子量]195.053159
[基原]*Zea mays* の乾燥した組織
[性状]琥珀色の結晶 (H_2O)
[融点]Mp 180 ℃

----------文献----------

Klun, J.A. et al., J. Agric. Food Chem., 1970, 18, 663, (分離, 構造決定, 合成法)
Anai, T. et al., Phytochemistry, 1996, 42, 273, (誘導体)

§ 6,7-Dimethoxy-1(3*H*)-benzoxazolone; 4-Chloro

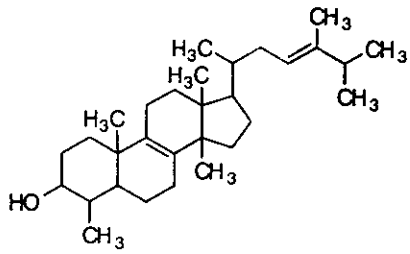


[化学名・別名]4-Chloro-6,7-dimethoxy-2-benzoxazolinone
[構造式]
[分子式]$C_9H_8ClNO_4$
[分子量]229.619
[正確な分子量]229.014186
[基原]次の植物から分離: light-grown トウモロコシシュート (*Zea may*)

----------文献----------

Klun, J.A. et al., J. Agric. Food Chem., 1970, 18, 663, (分離, 構造決定, 合成法)
Anai, T. et al., Phytochemistry, 1996, 42, 273, (誘導体)

§ 4,14-Dimethylergosta-8,23-dien-3-ol; (3 β,4 α,5 α,23*E*)-form



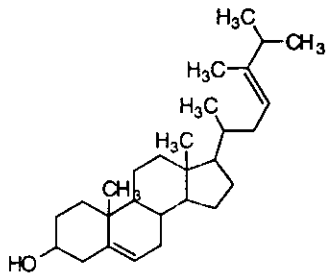
[CAS No.]84886-39-5
[化合物分類]ステロイド(Ergostane steroid;excluding withanolide andbrassinolide). (C28).
[構造式]

[基原]次の植物から分離: etiolated corn coleoptiles (*Zea may*)

----------文献----------

Scheid, F. et al., Phytochemistry, 1982, 21, 1959, (分離, Mas)

§ Ergosta-5,23-dien-3-ol; 3 β-form



[CAS No.]72962-53-9
[化合物分類]ステロイド(Ergostane steroid;excluding withanolide andbrassinolide). (C28).,
[構造式]

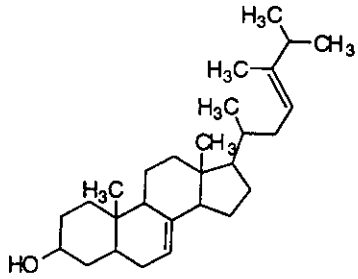
[基原]*Zea mays*

----------文献----------

Scheid, F. et al., Phytochemistry, 1979, 18, 1207

§ Ergosta-7,23-dien-3-ol; (3 β,5 α)-form

[CAS No.]72982-05-9
[化合物分類]ステロイド(Ergostane steroid;excluding withanolide andbrassinolide). (C28).,
[構造式]

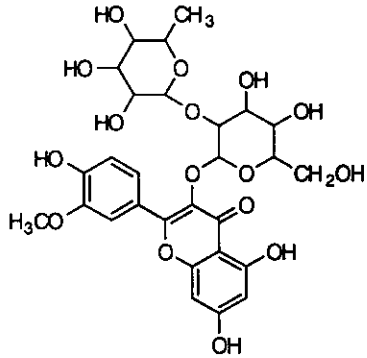


[基原]*Zea mays*

----------文献----------

Scheid, F. et al., Phytochemistry, 1979, 18, 1207

§ 3-Glucopyranosyloxy-4',5,7-trihydroxy-3'-methoxyflavone; 2''-*O*-α-L-Rhamnopyranosyl
[化学名・別名]Isorhamnetin 3-neohesperidoside. Calendoflavoside
[CAS No.]55033-90-4
[化合物分類]フラボノイド(Flavonol; 5 × O-置換基)
[構造式]

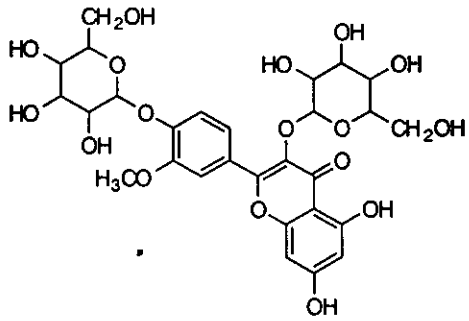


[分子式]$C_{28}H_{32}O_{16}$
[分子量]624.551
[正確な分子量]624.16904
[基原]次の植物から分離: *Nerisyrenia* sp., *Parietaria officinalis*, *Typha latifolia*, *Zea mays*
[融点]Mp 194-197 ℃
[比旋光度]:$[\alpha]_D^{23}$ -104 (c, 0.1 in MeOH)

----------文献----------

C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002
Elgamal, M.H.A. et al., Fitoterapia, 1998, 69, 549, (Isorhamnetin 3-glucoside, H-NMR, C13-NMR)

§ 3-Glucopyranosyloxy-4',5,7-trihydroxy-3'-methoxyflavone; 4'-*O*-β-D-Glucopyranoside
[化学名・別名]Dactylin. Astragalegoside. Dactilin. Isorhamnetin 3,4'-diglucoside
[CAS No.]28288-98-4
[化合物分類]フラボノイド(Flavonol; 5 × O-置換基)
[構造式]

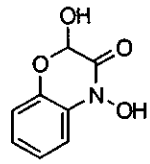


[分子式]$C_{28}H_{32}O_{17}$
[分子量]640.551
[正確な分子量]640.163955
[基原]次の植物から分離: *Astragalus galegiformis*, *Dactylis glomerata*, *Zea mays*, その他の植物
[性状]黄色の結晶 (EtOH)
[融点]Mp 187-189 ℃
[比旋光度]:$[\alpha]_D^{20}$ -85 (0.1 *M* NaOH 溶液)

----------文献----------

Inglett, G.E., Nature (London), 1956, 178, 1346, (Dactylin)
Ceska, O. et al., Phytochemistry, 1984, 23, 1822, (Dactylin)
Elgamal, M.H.A. et al., Fitoterapia, 1998, 69, 549, (Isorhamnetin 3-glucoside, H-NMR, C13-NMR)

§ 2-Hydroxy-2*H*-1,4-benzoxazin-3(4*H*)-one; *N*-Hydroxy
[化学名・別名]2,4-Dihydroxy-2*H*-1,4-benzoxazin-3(4*H*)-one. DIBOA
[CAS No.]17359-54-5
[化合物分類]アルカロイド化合物(1,4-Benzoxazin-3-one alkaloid)
[構造式]



[分子式]$C_8H_7NO_4$
[分子量]181.148
[正確な分子量]181.037509
[基原]次の植物から分離: 発芽したライ麦(*Secale cereale*), トウモロコシ(*Zea may*)

[性状]結晶(Et_2O/cyclohexane)
[融点]Mp 152 ℃
[化学物質毒性データ総覧(RTEC)登録番号]DM3850000

----------文献----------

Hofman, J. et al., Eur. J. Biochem., 1969, 8, 109, (分離, HBOA-Glc)
Wolf, R.B. et al., J. Nat. Prod., 1985, 48, 59, (分離, DIBOA-Glc)
Tanabe, J. et al., Biosci., Biotechnol., Biochem., 1999, 63, 1614, (分離, 生合成)

*****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*****

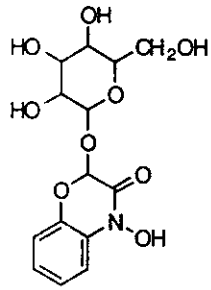
*****変異原性に関するデータ*****

<<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: 500 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-)]66,191,1979

§ 2-Hydroxy-2*H*-1,4-benzoxazin-3(4*H*)-one; *N*-Hydroxy, 2-*O*-β-D-glucopyranoside

[化学名・別名]DIBOA-Glc
[CAS No.]22260-47-5
[化合物分類]アルカロイド化合物(1,4-Benzoxazin-3-one alkaloid)
[構造式]



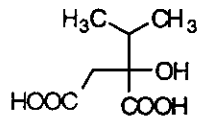
[分子式]$C_{14}H_{17}NO_9$
[分子量]343.29
[正確な分子量]343.090334
[基原]次の植物から分離: 発芽したライ麦(*Secale cereale*), トウモロコシ(*Zea may*), *Acanthus mollis* の種子
[性状]結晶
[融点]Mp 186.5-187 ℃
[UV]:[neutral] λ_{max} 254 (ε 8300); 281 (ε 6380) (prob. MeOH) (Derep)

----------文献----------

Hofman, J. et al., Eur. J. Biochem., 1969, 8, 109, (分離, HBOA-Glc)
Wolf, R.B. et al., J. Nat. Prod., 1985, 48, 59, (分離, DIBOA-Glc)

§ 2-Hydroxy-2-isopropylbutanedioic acid; (-)-form

[CAS No.]49601-06-1
[化合物分類]脂肪族化合物(Branched aliphatic carboxylic acid)
[構造式]



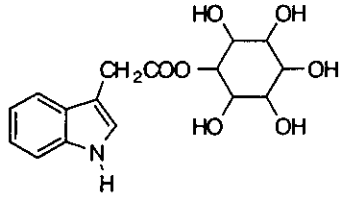
[基原]種々のバクテリア, 酵母, トウモロコシ(*Zea may*), アマ(*Linum usitatissimum*), *Sorghum vulgare*
[用途]leucine の生合成の中間体
[融点]Mp 171-173 ℃
[比旋光度]:$[\alpha]_D^{20}$ -20 (c, 2.5 in MeOH)

----------文献----------

Martin, W.R. et al., Biochim. Biophys. Acta, 1962, 62, 165, (分離, 合成法, 分割)
Sai, T., Agric. Biol. Chem., 1968, 32, 522, (分離)
Yi-Ming, L. et al., Planta Med., 1993, 59, 363, (分離, ester)

§ 1*H*-Indol-3-ylacetyl-*myo*-inositol

[CAS No.]73925-84-5
[化合物分類]アルカロイド化合物(Simple indole alkaloid)
[構造式]



[分子式]$C_{16}H_{19}NO_7$
[分子量]337.329

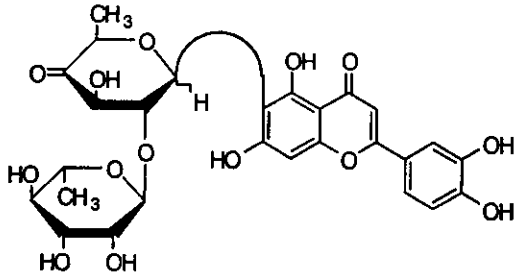
[正確な分子量]337.116154
[一般的性質]The inositol residue has the *myo*- config. but the point of attachment is variable (i.e. exact config. is unknown)
[基原]*Oryza sativa, Zea mays*

----------文献----------

Hall, P.J. et al., Phytochemistry, 1980, 19, 2121

§ Maysin

[化学名・別名]2,6-Anhydro-1-deoxy-5-*O*-(6-deoxy-α-L-mannopyranosyl)-6-*C*-[2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4-oxo-4*H*-1-benzopyran-6-yl]-*xylo*-3-hexulose(CAS 名). 3',4',5,7-Tetrahydroxy-6-[α-L-rhamnopyranosyl(1 → 2)-2,6-anhydro-1-deoxy-*xylo*-3-hexulopyranosyl] flavone
[CAS No.]70255-49-1
[化合物分類]フラボノイド(Flavone; 4 × O-置換基)
[構造式]



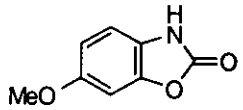
[分子式]$C_{27}H_{28}O_{14}$
[分子量]576.51
[正確な分子量]576.14791
[基原]次の植物から分離: corn silk (*Zea may*)
[用途]*Heliothis zea* に抗菌性を有する
[性状]結晶(MeOH/Me_2CO)
[融点]約 225 ℃ (分解)
[溶解性] 水, メタノールに可溶; アセトン, ヘキサンに難溶
[UV]:[neutral] λ max 258 (ε 19000); 272 (ε 14800); 352 (ε 14450) (MeOH)

----------文献----------

Waiss, A.C. et al., J. Econ. Entomol., 1979, 72, 256, (分離, 性質)
Elliger, C.A. et al., Phytochemistry, 1980, 19, 293, (分離)
Snook, M.E. et al., J. Agric. Food Chem., 1995, 43, 2740, (分離, C13-NMR)

§ 6-Methoxy-2(3*H*)-benzoxazolone(CAS 名)

[化学名・別名]6-Methoxy-2-benzoxazolinone(旧 CAS 名). Coixol. MIBOA
[CAS No.]532-91-2
[化合物分類]アルカロイド化合物(Oxazole and benzoxazole alkaloid), 脂肪族化合物(Bicycloheteroalicyclics (1 × O, 1 × N))
[構造式]



[分子式]$C_8H_7NO_3$
[分子量]165.148
[正確な分子量]165.042594
[基原]次の植物から分離: *Coix lacryma jobi* (イネ科)の根, 数種の穀類植物, 例えば, ムギ(*Triticum aestivum*), コーン(*Zea may*), ライ麦(*Secale cereale*). また *Scoparia dulcis* (ゴマノハグサ科)のすべての植物部位にみられる
[用途]腐敗及び昆虫攻撃抑制因子
[性状]ピンク色の結晶 (MeOH 溶液)
[融点]Mp 160-161 ℃ (154-155 ℃)
[溶解性] 塩基, エタノール, エーテル, ベンゼンに可溶; 水に易溶; ヘキサンに難溶
[UV]:[neutral] λ max 229 (); 286 () (H_2O)
[化学物質毒性データ総覧(RTEC)登録番号]DM5275200

----------文献----------

List, P.H., Arch. Pharm. (Weinheim, Ger.), 1959, 292, 452
Kubo, I. et al., Experientia, 1983, 39, 355, (分離, 合成法)
Hayashi, T. et al., Phytochemistry, 1994, 37, 1611, (分離, 生育)

*****RTECS (化学物質毒性データ) *****

生体影響物質 : 農芸化学. 変異原物質. 生殖影響物質

*****健康障害に関するデータ*****

*****生殖に関するデータ*****

〈〈試験方法〉〉 最小毒性量(TDLo)試験.

曝露経路　　：埋め込み.
被験動物　　：げっ歯類-ラット.
投与　　：962 ug/kg
雌雄投与期間：雄 1 日間(交配前)
毒性影響　　：〔生殖〕〔父系影響〕前立腺，精嚢，カウパー腺，副腺.
参照文献

JRPFA4 Journal of Reproduction and Fertility. (Biochemical Soc. Book Depot, POB 32, Commerce Way, Colchester, Essex CO2 8HP, UK) V.1- 1960-〔Vol.,頁,年(19-)〕83,859,1988

*****変異原性に関するデータ*****

〈〈試験方法〉〉DNA 阻害.
試験系　　：ヒト白血球.
投与量・期間：100 nmol/L
参照文献

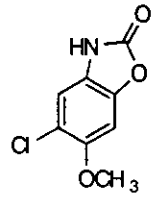
EXPEAM Experientia. (Birkhaeuser Verlag, POB 133, CH-4010 Basel, Switzerland) V.1- 1945-〔Vol.,頁,年(19-)〕32,29,1976

〈〈試験方法〉〉変異原試験-通常の試験法.
試験系　　：ヒト白血球.
投与量・期間：100 nmol/L
参照文献

EXPEAM Experientia. (Birkhaeuser Verlag, POB 133, CH-4010 Basel, Switzerland) V.1- 1945-〔Vol.,頁,年(19-)〕32,29,1976

§ 6-Methoxy-2(3*H*)-benzoxazolone; 5-Chloro

〔化学名・別名〕5-Chloro-6-methoxy-2(3*H*)-benzoxazolone. 5-Chloro-6-methoxy-2-benzoxazolinone
〔化合物分類〕アルカロイド化合物(Oxazole and benzoxazole alkaloid)
〔構造式〕



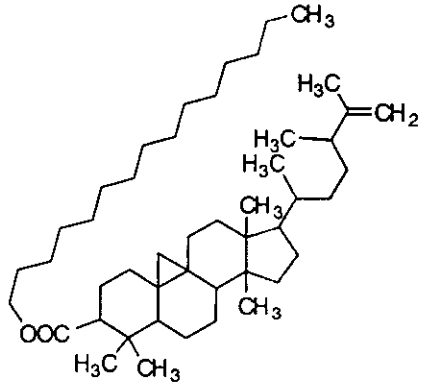
〔分子式〕$C_8H_6ClNO_3$
〔分子量〕199.593
〔正確な分子量〕199.003621
〔基原〕次の植物から分離: *Zea mays*

----------文献----------

Koyama, T. et al., Yakugaku Zasshi, 1955, 75, 699
Virtanen, A.I. et al., Suom. Kemistil. B, 1956, 29, 143; 171
List, P.H., Arch. Pharm. (Weinheim, Ger.), 1959, 292, 452
Kubo, I. et al., Experientia, 1983, 39, 355, (分離, 合成法)
Hayashi, T. et al., Phytochemistry, 1994, 37, 1611, (分離, 生育)

§ 24-Methylcycloart-25-en-3-ol; (3 β,24)-form, Hexadecanoyl

〔CAS No.〕104109-19-5
〔化合物分類〕テルペノイド(Cycloartane triterpenoid)
〔構造式〕



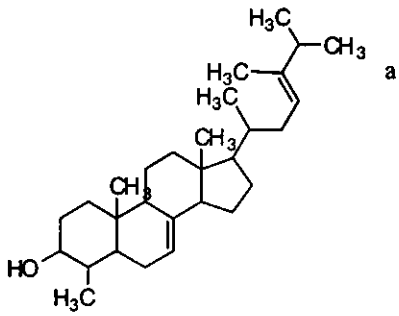
〔分子式〕$C_{47}H_{82}O_2$
〔分子量〕679.164
〔正確な分子量〕678.63148
〔基原〕次の植物から分離: コーンの花粉(*Zea may*)

----------文献----------

Berti, G. et al., Bull. Soc. Chim. Fr., 1964, 2359, (分離)
Ghisalberti, E.L. et al., Chem. Comm., 1969, 1401, (生合成)
Ageta, H. et al., Chem. Lett., 1982, 881, (分離, 構造決定)
Govardhan, C. et al., Phytochemistry, 1984, 23, 411, (分離)

Lin, W.C. et al., Planta Med., 1986, 4, (Cyclopholidonol)
Desoky, E.K., Indian J. Chem., Sect. B, 1996, 35, 1113, (分離, Ac)

§ 4-Methylergosta-7,23-dien-3-ol; (3 β,4 α,5 α,23*E*)-form
[CAS No.]79683-95-7
[化合物分類]ステロイド(Ergostane steroid;excluding withanolide ndbrassinolide). (C28).
[構造式]



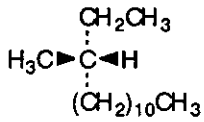
a

[基原]*Zea mays* の胚芽オイル

----------文献----------

Itoh, T. et al., Phytochemistry, 1981, 20, 1353, (分離)
Scheid, F. et al., Phytochemistry, 1982, 21, 1959, (分離)

§ 3-Methyltetradecane
[CAS No.]18435-22-8
[化合物分類]脂肪族化合物(Branched aliphatic hydrocarbon)
[構造式]



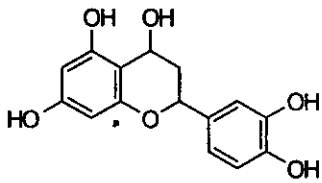
(*R*)-*form*

[分子式]$C_{15}H_{32}$
[分子量]212.418
[正確な分子量]212.2504
[基原]*Hierochloe odorata*, *Ruta graveolens*, *Zea mays*. Also found in the Dufour glands of various ants

----------文献----------

Thompson, A.C. et al., Phytochemistry, 1974, 13, 2029, (分離)
Brown, C.A. et al., J.O.C., 1986, 51, 162, (合成法, C13-NMR)
Ueyama, Y. et al., Flavour Fragrance J., 1991, 6, 63, (分離)
Nascimento, R.R. et al., J. Chem. Ecol., 1993, 19, 1993, (生育)

§ 3',4,4',5,7-Pentahydroxyflavan
[化学名・別名]2-(3,4-Dihydroxyphenyl)-3,4-dihydro-2*H*-1-benzopyran-4,5,7-triol(CAS 名). Luteoforol
[CAS No.]24897-98-1
[化合物分類]フラボノイド(Flavan-4-ol)
[構造式]

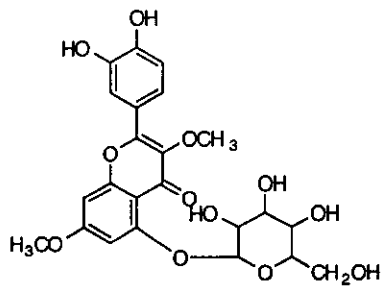


[分子式]$C_{15}H_{14}O_6$
[分子量]290.272
[正確な分子量]290.07904
[基原]*Columnea hybrida*, *Sorghum vulgare*, *Zea mays*

----------文献----------

Bate-Smith, E.C. et al., J. Food Sci., 1969, 34, 203, (分離)
Bate-Smith, E.C., Phytochemistry, 1969, 8, 1803; 1811, (分離, 合成法)
Styles, E.D. et al., Phytochemistry, 1975, 14, 413, (分離)
Stich, K. et al., Z. Naturforsch., C, 1988, 43, 311, (分離)

§ 3,3',4',5,7-Pentahydroxyflavone; 3,7-Di-Me ether, 5-*O*-β-D-gluco pyranoside
[化学名・別名]3',4',5-Trihydroxy-3,7-dimethoxyflavone 5-glucoside
[CAS No.]128388-46-5
[化合物分類]フラボノイド(Flavonol; 5 × O-置換基)
[構造式]



[分子式]$C_{23}H_{24}O_{12}$
[分子量]492.435
[正確な分子量]492.12678

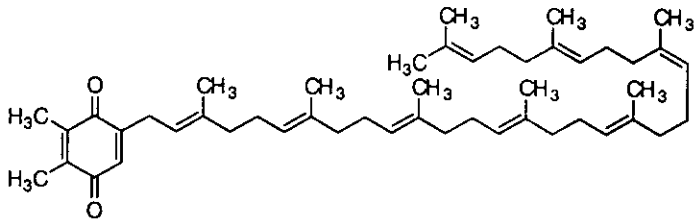
[基原]次の植物から分離: *Zea mays*

----------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, no. 1522, (生育)
IARC Monog., 1983, 31, 213; Suppl. 7, 71, (レビュー, 毒性)
The Flavonoids: Advances in Research since 1980, (Ed. Harborne, J.B.), Chapman and Hall, London, 1988
Jiyun, L. et al., Drugs of the Future, 1997, 22, 720, (レビュー, 分離, 薬理)

§ Plastoquinone; Plastoquinone 8

[CAS No.]28974-95-0
[化合物分類]テルペノイド(Meroterpenoid)
[構造式]



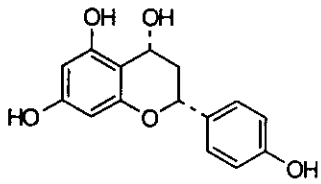
[分子式]$C_{48}H_{72}O_2$
[分子量]681.096
[正確な分子量]680.55323
[基原]次の植物から分離: *Aesculus hippocastanum*, *Zea mays*, *Ficus elastica*
[性状]オイル

----------文献----------

Kofler, M. et al., Helv. Chim. Acta, 1959, 42, 2252, (構造決定, 合成法)
Eck, H. et al., Z. Naturforsch., B, 1963, 18, 446, (分離, UV, IR, H-NMR)
Misiti, D. et al., J.A.C.S., 1965, 87, 1402; 1407, (分離, UV, IR, H-NMR, Mass, 構造決定)
Whistance, G.R. et al., Phytochemistry, 1970, 9, 213; 737, (分離)
Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, no. 4261, (成書)
Pennock, J.F., Methods Enzymol., 1985, 110, 313, (レビュー, 生合成)
Okamoto, T. et al., J. Chromatogr., 1988, 430, 11, (HPLC)

§ 4,4',5,7-Tetrahydroxyflavan

[化学名・別名]4',5,7-Trihydroxy-4-flavanol. Apiforol
[CAS No.]55167-29-8
[関連 CAS No.]10493-01-3, 66312-92-3
[化合物分類]フラボノイド(Flavan-4-ol)
[構造式]



(2*RS*,4*RS*)-form

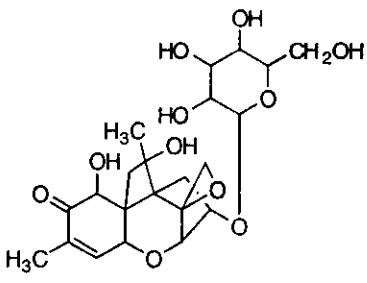
[分子式]$C_{15}H_{14}O_5$
[分子量]274.273
[正確な分子量]274.084125
[基原]次の植物から分離: トウモロコシの葉, 粒 (*Zea may*)
[その他のデータ]構造は未決定

----------文献----------

Styles, E.D. et al., Phytochemistry, 1975, 14, 413, (分離)
Lam, J. et al., Phytochemistry, 1975, 14, 1621, (分離)
Watterson, J.J. et al., J. Agric. Food Chem., 1983, 31, 41, (分離)

§ 3,7,15-Trihydroxy-8-scirpenone; (3 α,7 α)-form, 3-*O*-β-D-Glucopyranoside

[CAS No.]131180-21-7
[化合物分類]テルペノイド(Trichothecane sesquiterpenoid)
[構造式]

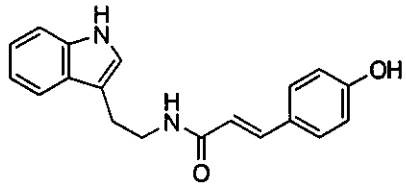


[分子式]$C_{21}H_{30}O_{11}$
[分子量]458.461
[正確な分子量]458.178815
[基原]次の植物から分離: *Zea mays* の培養物

----------文献----------

Yoshizawa, T. et al., Agric. Biol. Chem., 1973, 37, 2933, (分離)
Miller, J.D. et al., Can. J. Microbiol., 1983, 29, 1171, (分離)
Trichothecenes - Chemical, Biological and Toxicological Aspects, (ed., Ueno, Y.), Elsevier, 1983, (毒性, レビュー)
Sewald, N. et al., Tetrahedron: Asymmetry, 1992, 3, 953, (3-glucoside)
Mirocha, C.J. et al., J. Agric. Food Chem., 1998, 46, 1444, (生育)
Zamir, L.O. et al., J. Biol. Chem., 1999, 274, 12269, (生合成)
Cole, R.J. et al., Handbook of Toxic Fungal Metabolites, Academic Press, New York, 1981, 202
Lewis, R.J., Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold, 1992,
ACH075; VTF500

§ Tryptamine; N^b-(4-Hydroxycinnamoyl)

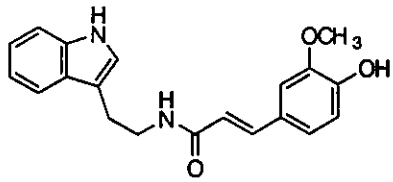


[化学名・別名]N^b-*p*-Coumaroyltryptamine
[CAS No.]53905-12-7
[化合物分類]アルカロイド化合物(Simple tryptamine alkaloid)
[構造式]
[分子式]$C_{19}H_{18}N_2O_2$
[分子量]306.363
[正確な分子量]306.136828
[基原]*Zea mays* の粒

----------文献----------

Ehmann, A. et al., Phytochemistry, 1974, 13, 1979, (N^b-*p*-Coumaroyltryptamine, N^b-Feruloyltryptamine)

§ Tryptamine; N^b-(4-Hydroxy-3-methoxycinnamoyl)

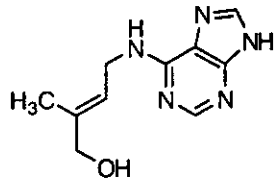


[化学名・別名]N^b-Feruloyltryptamine
[CAS No.]53905-13-8
[化合物分類]アルカロイド化合物(Simple tryptamine alkaloid)
[構造式]
[分子式]$C_{20}H_{20}N_2O_3$
[分子量]336.39
[正確な分子量]336.147393
[基原]*Zea mays* の粒

----------文献----------

Ehmann, A. et al., Phytochemistry, 1974, 13, 1979, (N^b-*p*-Coumaroyltryptamine, N^b-Feruloyltryptamine)

§ Zeatin; (*E*)-form



[CAS No.]1637-39-4
[化合物分類]アルカロイド化合物(Purine)
[構造式]
[基原]次の植物から分離: *Zea mays* (イネ科), その他とても多くの植物
[融点]Mp 212-213 ℃ (207-208 ℃)
[溶解性] 水に可溶
[UV]:[neutral] λ_{max} 212 (ε 17050); 270 (ε 16150) (H_2O) [acid] λ_{max} 207 (ε 14500); 275 (ε 14650) (HCl) [base] λ_{max} 220 (ε 15900); 276 (ε 14650) (NAOH)
[化学物質毒性データ総覧(RTEC)登録番号]EM9506000

----------文献----------

Scarbrough, E. et al., Proc. Natl. Acad. Sci. U.S.A., 1973, 70, 3825, (*cis*-Zeatin)

*****RTECS (化学物質毒性データ) *****

生体影響物質　　: 農芸化学. 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〉〉 不定期 DNA 合成試験.
試験系　　: ヒト白血球.
投与量・期間 : 1 umol/L

参照文献

EXPEAM Experientia. (Birkhaeuser Verlag, POB 133, CH-4010 Basel, Switzerland) V.1- 1945- [Vol.,頁,年(19-)]32,29,1976

〈〈試験方法〉〉 変異原試験-通常の試験法.

試験系 : ヒト白血球.

投与量・期間 : 100 nmol/L

参照文献

EXPEAM Experientia. (Birkhaeuser Verlag, POB 133, CH-4010 Basel, Switzerland) V.1- 1945- [Vol.,頁,年(19-)]32,29,1976

〈〈試験方法〉〉 DNA 阻害.

試験系 : ヒト白血球.

投与量・期間 : 100 umol/L

参照文献

EXPEAM Experientia. (Birkhaeuser Verlag, POB 133, CH-4010 Basel, Switzerland) V.1- 1945- [Vol.,頁,年(19-)]32,29,1976

§ Zeatin; (*E*)-form, 9-β-D-Ribofuranosyl, 5''-phosphate

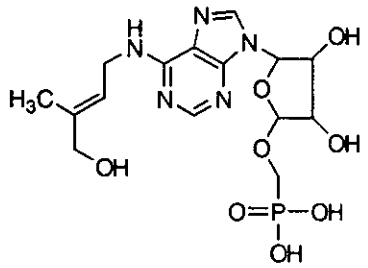
[化学名・別名]Ribosylzeatin phosphate

[CAS No.]25615-16-1

[その他の CAS No.]15075-52-2

[化合物分類]アルカロイド化合物(Purine)

[構造式]



[分子式]$C_{15}H_{22}N_5O_8P$

[分子量]431.341

[正確な分子量]431.120602

[基原]次の植物から分離: *Zea mays*

[用途]サイトカイニン

[性状]塊

----------文献----------

Letham, D.S. et al., Life Sci., 1966, 5, 1999, (分離, ribosylzeatin phosphate)

Shadid, B. et al., Tetrahedron, 1990, 46, 901, (合成法, ribosylzeatin phosphate)

***********ドクダミ (Dokudami) ***********

§§ ドクダミ科ドクダミ(*Houttuynia cordata* Thunberg)の全草。

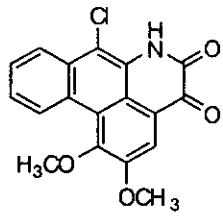
§ Cepharadione B; 7-Chloro, *N*-de-Me

[化学名・別名]7-Chloro-6-demethylcepharadione B

[CAS No.]149682-95-1

[化合物分類]アルカロイド化合物(Aporphine alkaloid)

[構造式]



[分子式]$C_{18}H_{12}ClNO_4$

[分子量]341.75

[正確な分子量]341.045486

[基原]次の植物から得られるアルカロイド: *Houttuynia cordata* (ドクダミ科)

----------文献----------

Atanes, N. et al., J.O.C., 1991, 56, 2984, (合成法, Cepharadione B, Norcepharadione B)

Jong, T.T. et al., J. Chin. Chem. Soc. (Taipei), 1993, 40, 301; CA, 119, 135624c, (7-Chloro-6-demethylcepharadione B)

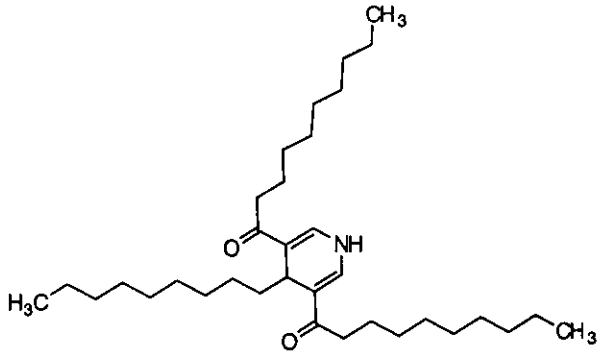
Suau, R. et al., Tetrahedron, 1996, 52, 11307, (合成法)

§ 3,5-Diacyl-1,4-dihydro-4-nonylpyridine; 3,5-Didecanoyl-1,4-dihydro-4-nonylpyridine

[化学名・別名]1,1'-(1,4-Dihydro-4-nonyl-3,5-pyridinediyl) bis[1-decanone] (CAS 名)

[CAS No.]158528-00-8

[化合物分類]アルカロイド化合物(Miscellaneous pyridine alkaloid)
[構造式]

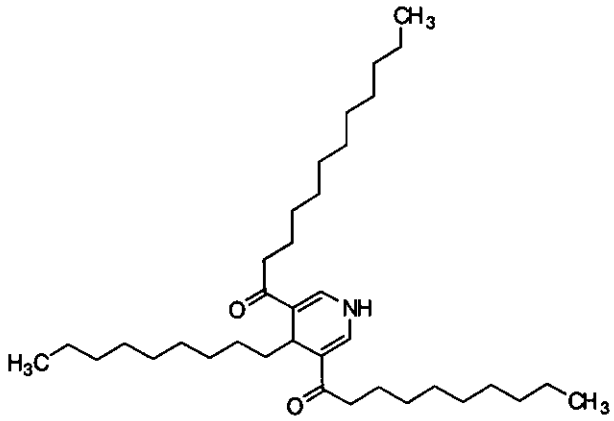


[分子式]$C_{34}H_{61}NO_2$
[分子量]515.861
[正確な分子量]515.470229
[基原]次の植物から得られるアルカロイド: *Houttuynia cordata*. Component of Yu Xing Cao

----------文献----------

Proebstle, A. et al., Nat. Prod. Lett., 1994, 4, 235

§ 3,5-Diacyl-1,4-dihydro-4-nonylpyridine; 3-Decanoyl-5-dodecanoyl-1,4-dihydro-4-nonylpyridine
[化学名・別名]1-[1,4-Dihydro-4-nonyl-5-(1-oxodecyl)-3-pyridinyl]-1-dodecanone(CAS 名)
[CAS No.]158528-01-9
[化合物分類]アルカロイド化合物(Miscellaneous pyridine alkaloid)
[構造式]

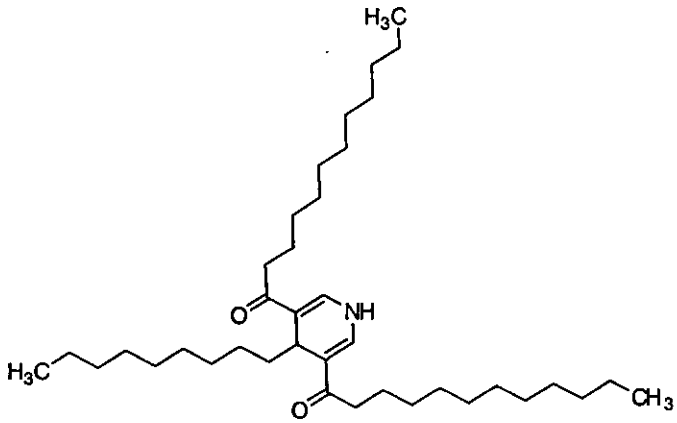


[分子式]$C_{36}H_{65}NO_2$
[分子量]543.915
[正確な分子量]543.501529
[基原]次の植物から得られるアルカロイド: *Houttuynia cordata*. Component of Yu Xing Cao

----------文献----------

Proebstle, A. et al., Nat. Prod. Lett., 1994, 4, 235

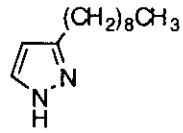
§ 3,5-Diacyl-1,4-dihydro-4-nonylpyridine; 3,5-Didodecanoyl-1,4-dihydro-4-nonylpyridine
[化学名・別名]1,1'-(1,4-Dihydro-4-nonyl-3,5-pyridinediyl) bis[1-dodecanone](CAS 名)
[CAS No.]158528-02-0
[化合物分類]アルカロイド化合物(Miscellaneous pyridine alkaloid)
[構造式]



[分子式]$C_{38}H_{69}NO_2$
[分子量]571.969
[正確な分子量]571.532829
[基原]次の植物から得られるアルカロイド: *Houttuynia cordata*. Component of Yu Xing Cao

----------文献----------

Proebstle, A. et al., Nat. Prod. Lett., 1994, 4, 235

§ 3-Nonyl-1*H*-pyrazole(CAS 名)
[CAS No.]72738-01-3
[化合物分類]アルカロイド化合物(Pyrazole alkaloid)
[構造式]

[分子式]$C_{12}H_{22}N_2$
[分子量]194.319
[正確な分子量]194.178298
[基原]次の植物から得られるアルカロイド: *Houttuynia cordata*
[用途]抗カビ剤
[性状]結晶
[融点]Mp 47.5-49.5 ℃
[沸点]Bp_{22} 195 ℃. Bp_9 181 ℃
[溶解性] エーテルに可溶

----------文献----------

Kosuge, T. et al., Yakugaku Zasshi, 1952, 72, 1227; 1954, 74, 819, (合成法)
Kosuge, T. et al., J. Biochem. (Tokyo), 1954, 41, 183, (分離)
U.S. Pat., 1959, 2 883 392; CA, 53, 16155e, (合成法)

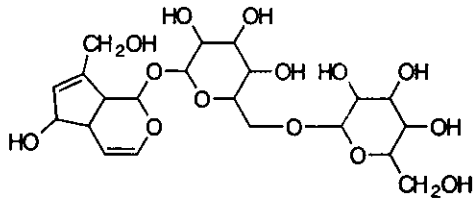
§ 3-Oxododecanal(CAS 名)
[化学名・別名]Houttuynin
[CAS No.]56505-80-7
[化合物分類]脂肪族化合物(Saturated unbranched aldehyde andketone)
[構造式] $H_3C(CH_2)_8COCH_2CHO$
[分子式]$C_{12}H_{22}O_2$
[分子量]198.305
[正確な分子量]198.16198
[基原]次の植物から分離: *Houttuynia cordata*
[性状]黄色のオイル
[融点]Mp 6-8 ℃

----------文献----------

Takuo, K., Yakugaku Zasshi, 1952, 72, 1227, (分離)
Noguchi, T. et al., Yakugaku Zasshi, 1956, 76, 386, (合成法)

*********トチュウ (Tochu) *********

§ § トチュウ科トチュウ(*Eucommia ulmoides* Oliver)の樹皮または根皮。

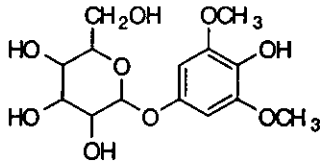
§ Aucubigenin; 1-*O*-[β-D-Glucopyranosyl-(1 → 6)-β-D-glucopyranoside]
[化学名・別名]Ulmoside. Aucubigenin 1-gentiobioside
[CAS No.]67708-72-9
[化合物分類]テルペノイド(Iridoid monoterpenoid)
[構造式]

[分子式]$C_{21}H_{32}O_{14}$
[分子量]508.475
[正確な分子量]508..17921
[基原]*Eucommia ulmoides, Odontites verna*
[性状]結晶(EtOH)もしくは無定型の塊
[融点]Mp 180-181 ℃
[比旋光度]:$[\alpha]_D^{20}$ -16.6 (c, 2.5 in MeOH). $[\alpha]_D^{25}$ -45 (c, 1.5 in MeOH)

----------文献----------

Esposito, P. et al., Gazz. Chim. Ital., 1970, 100, 836, (Glucosylaucubin)
Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, no. 1791, (生育)

El-Nagger, L.J. et al., J. Nat. Prod., 1980, 43, 649, (レビュー)
Boros, C.A. et al., J. Nat. Prod., 1990, 53, 1055, (レビュー)
Damtoft, S. et al., Phytochemistry, 1994, 36, 927, (6-*O*-*p*-Coumaroylaucubin, 10-0-Caffeoylaucubin)

§ 1,2,3,5-Benzenetetrol; 1,3-Di-Me ether, 5-*O*-β-glucopyranoside
[化学名・別名]Koaburaside
[CAS No.]41653-73-0
[化合物分類]単環芳香族(Simple phenol), 炭水化物(gluco-Hexose)
[構造式]

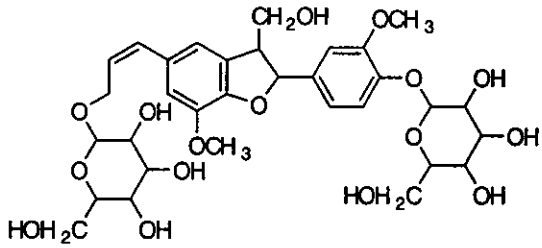


[分子式]$C_{14}H_{20}O_9$
[分子量]332.307
[正確な分子量]332.110735
[基原]*Enkianthus nudipes* と *Eucommia ulmoides* の茎, また *Hypericum geminiflorum*
[性状]粉末 (Py)
[融点]Mp 238 ℃
[UV]:[neutral] λ_{max} 282 (log ε 3.89); 402 (log ε 3.34) (MeOH)

----------文献----------

Ogawa, M. et al., Yakugaku Zasshi, 1973, 93, 223, (Koaburaside)

§ 4,7'-Epoxy-3,8'-bilign-7-ene-3',4',5,9,9'-pentol; (7'*S*,8'*R*)-form, 3',5-Di-Me ether, 4',9-di-*O*-β-D-glucopyranoside
[CAS No.]109792-90-7
[化合物分類]リグナン化合物(Neolignan)
[構造式]

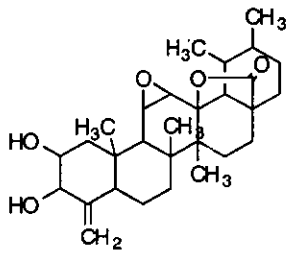


[分子式]$C_{32}H_{42}O_{16}$
[分子量]682.674
[正確な分子量]682.24729
[基原]*Eucommia ulmoides*
[性状]粉末 (EtOH)
[融点]Mp 134.7 ℃
[比旋光度]:$[\alpha]_D^{28}$ -62.3 (c, 0.14 in MeOH)

----------文献----------

C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002
Weinges, K. et al., Annalen, 1970, 736, 170, (分離)
Arens, H. et al., Planta Med., 1985, 52, (配糖体)
Binns, A.N. et al., Proc. Natl. Acad. Sci. U.S.A., 1987, 84, 980, (配糖体)
Yoshizawa, F. et al., Chem. Pharm. Bull., 1990, 38, 1927, (配糖体)

§ 11,12-Epoxy-2,3-dihydroxy-24-nor-4(23)-ursen-28,13-olide; (2α,3β,11α,12α,13β)-form
[化学名・別名]Ulmoidol
[CAS No.]196093-13-7
[化合物分類]テルペノイド(Ursane triterpenoid)
[構造式]



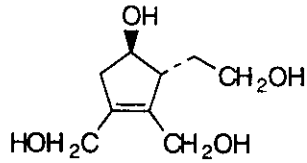
[基原]*Eucommia ulmoides*
[性状]無定型の粉末
[比旋光度]:$[\alpha]_D^{30}$ +48 (c, 1 in $CHCl_3$)

----------文献----------

Tanaka, C. et al., Chem. Pharm. Bull., 1997, 45, 1379, (分離, H-NMR, C13-NMR)

§ Eucommiol
[化学名・別名]4-Hydroxy-3-(2-hydroxyethyl)-1-cyclopentene-1,2-dimethanol(CAS 名)
[CAS No.]55930-44-4
[化合物分類]テルペノイド(Iridoid monoterpenoid)
[構造式]

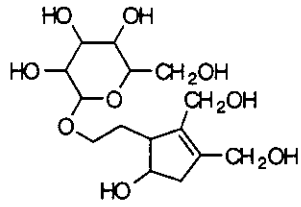
[分子式] $C_9H_{16}O_4$
[分子量] 188.223
[正確な分子量] 188.10486
[基原] *Eucommia ulmoides*
[性状] 粘着性の液体
[比旋光度]: $[\alpha]_D^{25}$ -30.5 (c, 1.08 in MeOH)



----------文献----------

Bianco, A. et al., Tetrahedron, 1974, 30, 4117
Bernini, R. et al., Phytochemistry, 1984, 23, 1431, (Eucommioside)
Hattori, M. et al., CA, 1988, 109, 215825c, (Deoxyeucommiol)
Ono, M. et al., Chem. Pharm. Bull., 1997, 45, 1094, (1-Oxoeucommiol)
Kaneko, T. et al., Phytochemistry, 1997, 46, 907, (Crescentin)

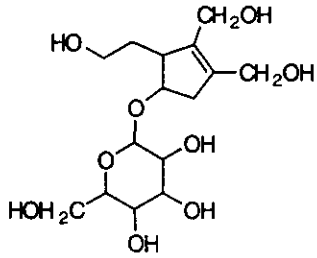
§ Eucommiol; 3-*O*-β-D-Glucopyranoside
[化学名・別名] Eucommioside I
[CAS No.] 82225-01-2
[化合物分類] テルペノイド (Iridoid monoterpenoid)
[構造式]
[分子式] $C_{15}H_{26}O_9$
[分子量] 350.365
[正確な分子量] 350.157685
[基原] *Eucommia ulmoides*



----------文献----------

Bernini, R. et al., Phytochemistry, 1984, 23, 1431, (Eucommioside)

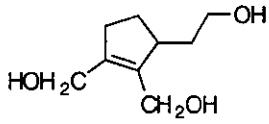
§ Eucommiol; 6-*O*-β-D-Glucopyranoside
[化学名・別名] Eucommioside II
[CAS No.] 94190-27-9
[化合物分類] テルペノイド (Iridoid monoterpenoid)
[構造式]
[分子式] $C_{15}H_{26}O_9$
[分子量] 350.365
[正確な分子量] 350.157685
[基原] *Eucommia ulmoides*
[性状] オイル
[比旋光度]: $[\alpha]_D$ -38.6 (H_2O)



----------文献----------

Bernini, R. et al., Phytochemistry, 1984, 23, 1431, (Eucommioside)

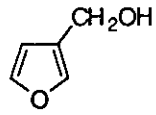
§ Eucommiol; 6-Deoxy
[化学名・別名] 3-(2-Hydroxyethyl)-1-cyclopentene-1,2-dimethanol (CAS 名). Deoxyeucommiol
[CAS No.] 117568-38-4
[化合物分類] テルペノイド (Iridoid monoterpenoid)
[構造式]
[分子式] $C_9H_{16}O_3$
[分子量] 172.224
[正確な分子量] 172.109945
[基原] *Eucommia ulmoides*



----------文献----------

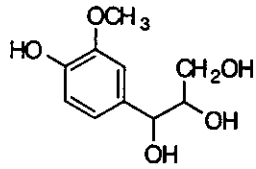
Bernini, R. et al., Phytochemistry, 1984, 23, 1431, (Eucommioside)
Hattori, M. et al., CA, 1988, 109, 215825c, (Deoxyeucommiol)

§ 3-Furanmethanol (CAS 名)
[化学名・別名] 3-Furancarbinol. 3-Furfuryl alcohol. 3-(Hydroxymethyl) furan
[CAS No.] 4412-91-3

[化合物分類]含酸素複素環式化合物(Furan)
[構造式]

[分子式]$C_5H_6O_2$
[分子量]98.101
[正確な分子量]98.03678
[基原]*Aloe arborescens, Eucommia ulmoides, Stellaria aquatica*
[性状]液体
[沸点]Bp_{17} 79-80 ℃
[濃度]d^{20}_4 1.139
[屈折率]n^{20}_D 1.4842

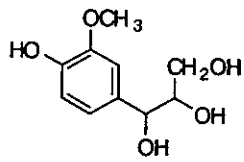
----------文献----------

Kitagawa, I. et al., Chem. Pharm. Bull., 1983, 31, 664, (配糖体)
Reinecke, M.G. et al., J. Nat. Prod., 1988, 51, 1236; 1989, 52, 375, (pyrrole-2-carboxylate)
Marstokk, K.M. et al., Acta Chem. Scand., 1993, 47, 849, (microwave, 構造決定)

§ Guaiacylglycerol; (1*RS*,2*R*)-form
[化学名・別名](±)-*threo*-form
[CAS No.]27391-16-8
[化合物分類]単環芳香族(Simple phenylpropanoid)
[構造式]

[基原]*Eucommia ulmoides, Picea* spp., *Pinus* spp., *Scorodocarpus borneensis*
[性状]シロップ

----------文献----------

Adler, E. et al., Acta Chem. Scand., 1963, 17, 27, (合成法, 構造, 成書)
Theander, O., Acta Chem. Scand., 1965, 19, 1792, (分離, 配糖体)
Rudloff, E., Chem. Ind. (London), 1965, 180, (分離)
Sano, Y. et al., CA, 1970, 73, 121683r, (分離)
Lundgren, L.N. et al., Acta Chem. Scand., Ser. B, 1982, 36, 695; 1985, 39, 241, (合成法, 分離, H-NMR, 成書)
Deyama, T. et al., Chem. Pharm. Bull., 1986, 34, 523, (分離)
Okuyama, E. et al., Chem. Pharm. Bull., 1998, 46, 655, (分離, H-NMR, C13-NMR)
Greca, M.D. et al., Phytochemistry, 1998, 49, 1299, (分離, H-NMR, C13-NMR)

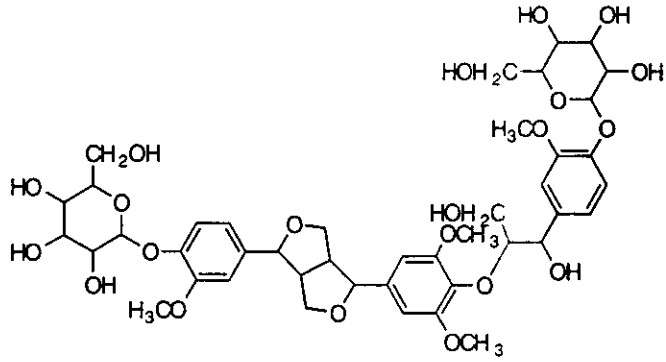
§ Guaiacylglycerol; (1*RS*,2*SR*)-form
[化学名・別名](±)-*erythro*-form
[CAS No.]27431-21-6
[化合物分類]単環芳香族(Simple phenylpropanoid)
[構造式]

[基原]*Eucommia ulmoides, Picea* spp., *Pinus* spp., *Scorodocarpus borneensis*
[融点]Mp 83-84 ℃

----------文献----------

Adler, E. et al., Acta Chem. Scand., 1963, 17, 27, (合成法, 構造, 成書)
Theander, O., Acta Chem. Scand., 1965, 19, 1792, (分離, 配糖体)
Rudloff, E., Chem. Ind. (London), 1965, 180, (分離)
Sano, Y. et al., CA, 1970, 73, 121683r, (分離)
Lundgren, L.N. et al., Acta Chem. Scand., Ser. B, 1982, 36, 695; 1985, 39, 241, (分離, H-NMR, 成書)
Deyama, T. et al., Chem. Pharm. Bull., 1986, 34, 523, (分離)
Okuyama, E. et al., Chem. Pharm. Bull., 1998, 46, 655, (分離, H-NMR, C13-NMR)
Greca, M.D. et al., Phytochemistry, 1998, 49, 1299, (分離, H-NMR, C13-NMR)

§ Hedyotol C; 4,4''-Di-*O*-β-D-glucopyranoside
Synonym (): Hedyotol C 4,4''-glucopyranoside
[CAS No.]107668-75-7
[その他の CAS No.]114884-47-8
[関連 CAS No.]74474-54-7, 74474-55-8, 79389-54-1, 79389-55-2

[化合物分類]リグナン化合物(Neolignan), リグナン化合物(Simple furofuranoid lignan)
[構造式]

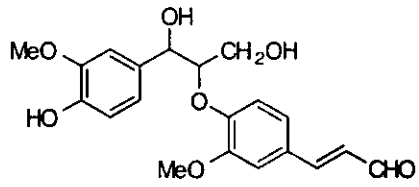


[分子式]$C_{43}H_{56}O_{21}$
[分子量]908.903
[正確な分子量]908.331415
[基原]*Eucommia ulmoides* の樹皮 . [性状]無定型の粉末
[比旋光度]:[α]$_D^{28}$ -11.5 (c, 0.35 in MeOH)
[UV]:[neutral] λ $_{max}$ 232 (); 271 () (MeOH)

----------文献----------

Kikuchi, T. et al., Chem. Pharm. Bull., 1985, 33, 1444
Deyama, T. et al., Chem. Pharm. Bull., 1986, 34, 4933-4938, (4,4"-diglucoside)

§ 3-[4-[2-Hydroxy-2-(4-hydroxy-3-methoxyphenyl)-1-(hydroxymethyl)ethoxy]-3-methoxyphenyl]-2-propenal (CAS 名)
[化学名・別名]Guaiacylglycerol β-coniferyl aldehyde ether
[CAS No.]17614-13-0
[関連 CAS No.]74474-54-7, 74474-55-8, 79389-54-1, 79389-55-2
[化合物分類]リグナン化合物(Neolignan)
[構造式]

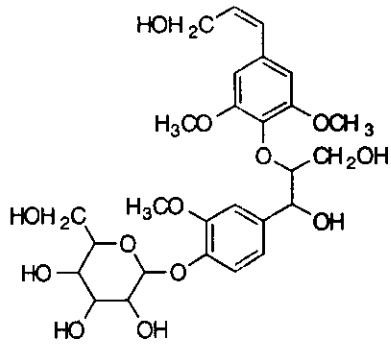


[分子式]$C_{20}H_{22}O_7$
[分子量]374.39
[正確な分子量]374.136555
[基原]*Abies sachalinensis*, *Eucommia ulmoides*, *Larix leptolepis*
[性状]シロップ
[比旋光度]:[α]$_D^{25}$ +20 (c, 0.1 in MeOH)
[UV]:[neutral] λ $_{max}$ 229 (); 287 (); 332 () (MeOH)
[その他のデータ]次の化合物との混合物: *erythro*- and *threo*-isomers

----------文献----------

Nimz, H., Chem. Ber., 1967, 100, 2633, (分離)
Miki, K. et al., Phytochemistry, 1980, 19, 449, (分離)
Katayama, T. et al., CA, 1981, 95, 169638m, (合成法)
Deyama, T. et al., Chem. Pharm. Bull., 1987, 35, 1785, (分離, UV, IR, H-NMR, C13-NMR)

§ 1-(4-Hydroxy-3-methoxyphenyl)-2-[4-(3-hydroxy-1-propenyl)-2-methoxyphenoxy]-1,3-propanediol; 5'-Methoxy, 4-*O*-β-D-glucopyranoside
[化学名・別名]Citrusin B
[CAS No.]105279-10-5
[化合物分類]リグナン化合物(Neolignan)
[構造式]



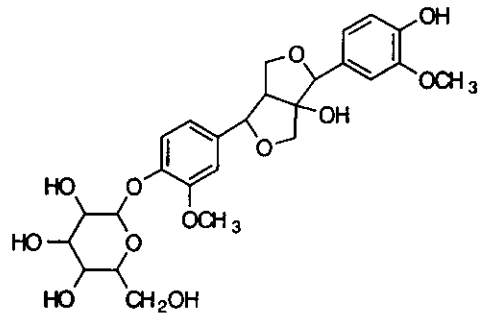
[分子式]$C_{27}H_{36}O_{13}$
[分子量]568.574
[正確な分子量]568.215595
[基原]次の植物から分離: レモン(*Citrus limon*), and the round kumquat (*Fortunella japonica*), *Eucommia ulmoides* の樹皮
[融点]Mp 105-106 ℃
[比旋光度]:[α]$_D^{20}$ -11.3 (c, 0.3 in MeOH)

----------文献----------

Sawabe, A. et al., Nippon Kagaku Kaishi, 1986, 60, 593, (Citrusin)
Deyama, T. et al., Chem. Pharm. Bull., 1987, 35, 1803, (Citrusin B)

§ 8-Hydroxypinoresinol; 4'-*O*-β-D-Glucopyranoside

[CAS No.]102582-69-4
[化合物分類]リグナン化合物(Side-chain oxygenated furofuranoid lignan)
[構造式]

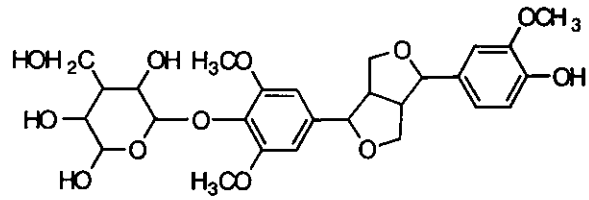


[分子式]$C_{26}H_{32}O_{12}$
[分子量]536.532
[正確な分子量]536.18938
[基原]*Eucommia ulmoides*
[性状]無定型
[比旋光度]:[α]$_D^{18}$ -28.8 (c, 1 in MeOH)
[UV]:[neutral] λ $_{max}$ 228 (); 278 () (MeOH)

----------文献----------

Tsukamoto, H. et al., Chem. Pharm. Bull., 1984, 32, 2730; 4482; 1985, 33, 1232
Deyama, T. et al., Chem. Pharm. Bull., 1986, 34, 523, (4-glucoside)

§ Medioresinol; (+)-form, 4-*O*-β-D-Glucopyranoside
[化学名・別名]Eucommin A
[CAS No.]99633-12-2
[化合物分類]リグナン化合物(Simple furofuranoid lignan)
[構造式]

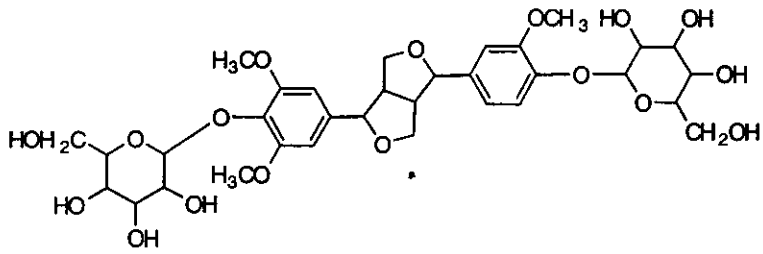


[分子式]$C_{27}H_{34}O_{12}$
[分子量]550.558
[正確な分子量]550.20503
[基原]次の植物の樹皮から分離: *Eucommia ulmoides*
[融点]Mp 163 ℃
[比旋光度]:[α]$_D^{18}$ +20.4 (c, 2.4 in MeOH)

----------文献----------

Deyama, T., Chem. Pharm. Bull., 1983, 31, 2993; 1985, 33, 3651, (分離, diglucoside, Eucommin A)

§ Medioresinol; (+)-form, Di-*O*-β-D-glucopyranoside
[化合物分類]リグナン化合物(Simple furofuranoid lignan)
[構造式]

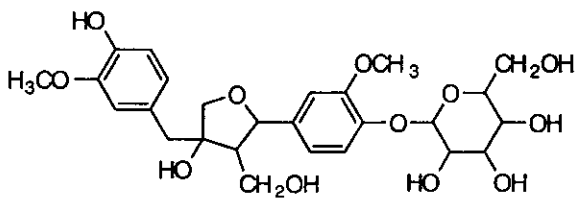


[分子式]$C_{33}H_{44}O_{17}$
[分子量]712.7
[正確な分子量]712.257855
[基原]次の植物の樹皮から分離:
Eucommia ulmoides
[性状]針状結晶(EtOH)
[融点]Mp 222 ℃
[比旋光度]:[α]$_D^{22}$ -9.1 (c, 0.1 in Py)

----------文献----------

Deyama, T., Chem. Pharm. Bull., 1983, 31, 2993; 1985, 33, 3651, (分離,diglucoside, Eucommin A)
Badawi, M.M. et al., J. Pharm. Sci., 1983, 72, 1285, (分離)

§ Olivil; 4-*O*-β-D-Glucopyranoside
[CAS No.]56440-73-4
[化合物分類]リグナン化合物(7,9'-Epoxytetrahydrofuranoid lignan)
[構造式]



[分子式]$C_{26}H_{34}O_{12}$
[分子量]538.547
[正確な分子量]538.20503
[基原]*Cerbera* sp., *Eucommia ulmoides*
[性状]無定型の粉末
[比旋光度]:[α]$_D^{23}$ -33.3 (c, 1 in MeOH)

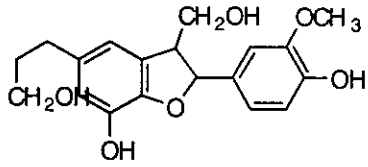
[UV]:[neutral] λ_{max} 229 (); 279 () (MeOH)

----------文献----------

Granados, R. et al., An. Quim., 1968, 64, 1095, (分離)
Viviers, P.M. et al., Tet. Lett., 1979, 3773, (分離)
Deyama, T. et al., Chem. Pharm. Bull., 1986, 34, 4933, (分離, 4-glucoside)
Tan, R.X. et al., Planta Med., 1990, 56, 475, (分離, H-NMR)

§ 3',4',5,9,9'-Pentahydroxy-4,7'-epoxylignan; (7'*S*,8'*R*)-form, 3'-Me ether

[化学名・別名]Cedrusin
[CAS No.]75775-36-9
[化合物分類]リグナン化合物(Neolignan)
[構造式]



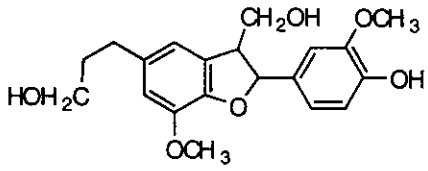
[分子式]$C_{19}H_{22}O_6$
[分子量]346.379
[正確な分子量]346.14164
[基原]*Cedrus deodara*, *Eucommia ulmoides*, *Pinus* spp., *Tsuga chinensis*
[性状]粉末
[比旋光度]:[α]$_D$ +4.39 (c, 0.91 in MeOH)

----------文献----------

Agrawal, P.K. et al., Phytochemistry, 1980, 19, 1260; 1982, 21, 1459, (Cedrusin, Cedrusinin)

§ 3',4',5,9,9'-Pentahydroxy-4,7'-epoxylignan; (7'*S*,8'*R*)-form, 3',5-Di-Me ether

[CAS No.]28199-69-1
[化合物分類]リグナン化合物(Neolignan)
[構造式]



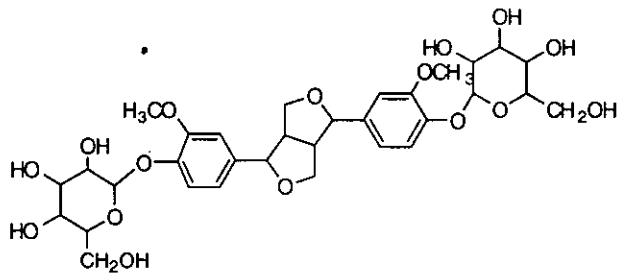
[分子式]$C_{20}H_{24}O_6$
[分子量]360.406
[正確な分子量]360.15729
[基原]*Eucommia ulmoides*, *Licaria chrysophylla*
[性状]針状結晶(Me_2CO 溶液)
[融点]Mp 102-103 ℃

----------文献----------

Agrawal, P.K. et al., Phytochemistry, 1980, 19, 1260; 1982, 21, 1459, (Cedrusin, Cedrusinin)
Lemiere, G. et al., J.C.S. Perkin 1, 1995, 1775, (3',4-Dimethylcedrusin)

§ Pinoresinol; (+)-form, Di-*O*-β-D-glucopyranoside

[CAS No.]63902-38-5
[化合物分類]リグナン化合物(Simple furofuranoid lignan)
[構造式]



[分子式]$C_{32}H_{42}O_{16}$
[分子量]682.674
[正確な分子量]682.24729
[基原]*Eucommia ulmoides* の樹皮
[融点]Mp 221-230 ℃
[比旋光度]:[α]$_D^{25}$ -27.3 (c, 0.54 in H_2O)

----------文献----------

Konishi, T. et al., Yakugaku Zasshi, 1993, 113, 670, (diglucoside)
C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002

§ Ulmoidoside A

[CAS No.]127214-79-3
[化合物分類]テルペノイド(Iridoid monoterpenoid)
[構造式]