

§ 3,16-Dihydroxy-12-oleanen-28-oic acid; (3 $\beta$ ,16 $\alpha$ )-form, Glycoside (5)

[化学名・別名] Albiside. Albizide

[CAS No.] 65607-38-7

[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式] 有効な構造式はない

[基原] 次の植物の種子から分離: *Albizzia julibrissin*

[融点] Mp 183-187 °C

[比旋光度]:  $[\alpha]_D^{20}$  -58.1

-----文献-----

Sergienko, T.V. et al., Khim. Priir. Soedin., 1977, 13, 708; Chem. Nat. Compd. (Engl. Transl.), 1977, 13, 592, (Albiside)

§ 3,3',4,4',5,5',9-Heptahydroxy-7,9'-epoxylignan; (7*S*,8*R*,8'*R*)-form, 3,3',5,5'-Tetra-Me ether, 4'-*O*-[ $\beta$ -*D*-apiofuranosyl-(1 $\rightarrow$ 2)- $\beta$ -*D*-glucopyranoside]

[化合物分類] リグナン化合物

(7,9'-Epoxytetrahydrofuranoid lignan)

[構造式]

[分子式] C<sub>33</sub>H<sub>46</sub>O<sub>17</sub>

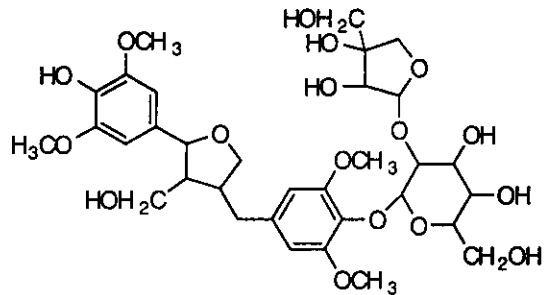
[分子量] 714.716

[正確な分子量] 714.273505

[基原] *Albizzia julibrissin*

[性状] 無定形の粉末

[比旋光度]:  $[\alpha]_D^{25}$  -2.7 (c, 0.4 in MeOH)



-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1991, 39, 2952, (3,3',5,5'-tetra-Me ether 4'-apiosylglucoside)

§ 2-(5-Hydroxy-2-pentenyl)-3-oxocyclopentaneacetic acid; (3*R*,7*R*)-form, *O*- $\beta$ -*D*-Glucopyranoside

[化合物分類] 脂肪族化合物 (Monocarbocyclic carboxylic acid and lactone)

[構造式]

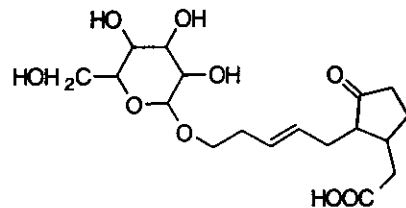
[分子式] C<sub>18</sub>H<sub>28</sub>O<sub>9</sub>

[分子量] 388.414

[正確な分子量] 388.173335

[基原] Leaf-closing substance of *Albizzia julibrissin*

[性状] 塊 (as K salt)



-----文献-----

Yoshihara, T. et al., Agric. Biol. Chem., 1989, 53, 2835, (分離)

Miersch, O. et al., Phytochemistry, 1991, 30, 4049, (分離)

Cui, B. et al., Chem. Pharm. Bull., 1993, 41, 178, (配糖体)

Achenbach, H. et al., Phytochemistry, 1994, 35, 1527, (sulfate)

Ueda, M. et al., Tetrahedron, 2000, 56, 8101-8105, (分離, 配糖体)

§ Jasmonic acid; 12- $\beta$ -*D*-Glucopyranosyloxy

[化学名・別名]  $\beta$ -*D*-Glucopyranosyl-12-hydroxyjasmonic acid

[化合物分類] 脂肪族化合物 (Monocarbocyclic carboxylic acid and lactone)

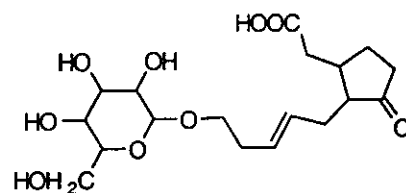
[構造式]

[分子式] C<sub>18</sub>H<sub>28</sub>O<sub>9</sub>

[分子量] 388.414

[正確な分子量] 388.173335

[基原] *Albizzia julibrissin*



-----文献-----

Ford, R.A. et al., Food Chem. Toxicol., 1992, 30, 85S, (レビュー, 毒性)

Sembdner, G. et al., Annu. Rev. Plant Physiol., 1993, 44, 569, (レビュー)

Wasternack, C. et al., Fett/Lipid, 1998, 100, 139, (レビュー)

Ueda, M. et al., Tet. Lett., 1999, 40, 7823, (12-Glucosyloxyjasmonic acid)

### § Norepinephrine, INN

[化学名・別名] 4-(2-Amino-1-hydroxyethyl)-1,2-benzenediol (CAS 名).  $\alpha$ -(Aminomethyl)-3,4-dihydroxybenzyl alcohol (旧 CAS 名). 2-Amino-1-(3,4-dihydroxyphenyl) ethanol. 4-( $\beta$ -Amino- $\alpha$ -hydroxyethyl) catechol. Noradrenaline, BAN. Arterenol

[関連 CAS No.] 5794-08-1, 69815-49-2

[化合物分類] アルカロイド化合物 (Simple tyramine alkaloid), 薬物:  $\alpha$ -アドレナリン受容体作用薬 ( $\alpha$ -Adrenoceptor agonist), 薬物:  $\beta$ -アドレナリン受容体作用薬 ( $\beta$ -Adrenoceptor agonist), 薬物: 交感神経作用薬 (Sympathomimetic agent), 薬物: 血管収縮 (Vasoconstrictor)

[構造式]

[分子式]  $C_8H_{11}NO_3$

[分子量] 169.18

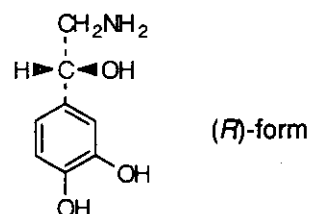
[正確な分子量] 169.073894

[基原] 次の植物に含まれるアルカロイド: *Albizia julibrissin*, *Mimosa pudica*, *Phaseolus multiflorus*, *Samanea saman*, *Musa paradisiaca*, *Musa sapientium*, *Passiflora quadrangularis*, *Portulaca oleracea*, *Prunus domestica*, *Citrus*

*sinensis*, *Aconitum napellus*, *Aconitum paniculatum*, *Solanum tuberosum* (マメ科, バショウ科, トケイソウ科, スベリヒユ科, パラ科, ミカン科, キンボウゲ科, ナス科)

[用途]  $\alpha$ ,  $\beta$ -アドレナリン受容体作用薬, 気管拡張薬, 交感神経薬, 昇圧薬

[Log P 計算値] Log p -0.99 (計算値)



-----文献-----

Waalkes, T.P. et al., Science (Washington, D.C.), 1958, 127, 648, (分離)

Levy, B. et al., Drill's Pharmacol. Med., 4th edn., McGraw-Hill, New York, 1971, 627, (レビュー, 薬理)

Karlson, P. et al., Hoppe Seyler's Z. Physiol. Chem., 1972, 327, 86, (分離, 合成法, N-Ac)

Applewhite, P.B., Phytochemistry, 1973, 12, 191, (生育)

Smith, T.A., Phytochemistry, 1977, 16, 9, (生育, 成書)

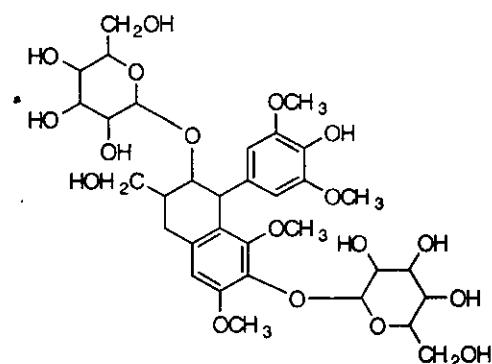
Wilson, T.D. et al., Anal. Profiles Drug Subst., 1982, 11, 555, (レビュー)

Lewis, R.J., Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold, 1992, ARL500; NN050; NNO500; NNO699; ARL750

### § 3,3',4,4',5,5',9,9'-Octahydroxy-2,7'-cyclo lignan; (7'S,8R,8'R)-form, 3,3',5,5'-Tetra-Me ether, 4,9'-di-O- $\beta$ -D-glucopyranoside

[化合物分類] リグナン化合物 (Side-chain oxygenated aryltetralin lignan)

[構造式]



[分子式]  $C_{33}H_{48}O_{18}$

[分子量] 744.742

[正確な分子量] 744.28407

[基原] 次の植物から分離: *Albizia julibrissin* の茎皮

[性状] 粉末

[比旋光度]:  $[\alpha]_D^{25} -21.2$  (c, 0.12 in MeOH)

-----文献-----

Freudenberg, K. et al., Tet. Lett., 1959, No. 17, 19, (分離)

Weinges, K., Chem. Ber., 1961, 94, 2522, (分離)

Arya, V.P. et al., Acta Chem. Scand., 1962, 16, 518, (分離)

Narnsimbachari, N. et al., Can. J. Chem., 1962, 40, 1118, (分離)

Kato, Y. et al., Chem. Pharm. Bull., 1966, 14, 1438, (分離)

Hostettler, F.D. et al., Tetrahedron, 1969, 25, 2325, (分離)

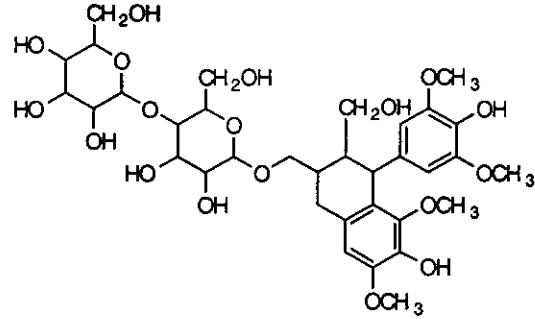
Rowe, J.W. et al., Phytochemistry, 1972, 11, 2513, (分離)

Ogawa, M. et al., Chem. Pharm. Bull., 1976, 24, 2102, (Nudiposide, 分離, 合成法)

Dada, G. et al., J. Nat. Prod., 1989, 52, 1327, (分離, 配糖体)  
 Yoshinari, K. et al., Phytochemistry, 1990, 29, 1675, (分離, (±)-form)  
 Higuchi, H. et al., Chem. Pharm. Bull., 1992, 40, 534, (配糖体)  
 Achenbach, R.S. et al., Planta Med., 1992, 58, 270, (配糖体)  
 Achenbach, H. et al., Phytochemistry, 1997, 45, 325, (分離, 誘導體)

§ 3,3',4,4',5,5',9,9'-Octahydroxy-2,7'-cyclo lignan; (7'S,8R,8'R)-form, 3,3',5,5'-Tetra-Me ether, 9-O-[β-D-glucopyranosyl-(1→4)-β-D-glucopyranoside]

[化合物分類] リグナン化合物 (Side-chain oxygenated aryltetralin lignan)  
 [構造式]



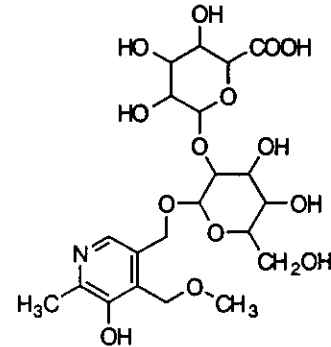
[分子式] C<sub>34</sub>H<sub>48</sub>O<sub>18</sub>  
 [分子量] 744.742  
 [正確な分子量] 744.28407  
 [基原] *Albizia julibrissin*  
 [性状] 粉末  
 [比旋光度]: [α]<sub>D</sub><sup>25</sup> +0.4 (c, 0.47 in MeOH)

-----文献-----

Ohashi, K. et al., Chem. Pharm. Bull., 1994, 42, 1924, ((-)-Lyoniresinol 9-glucoside)  
 C.Djerassi et al., Dictionary of Natural Products, Chapman, Hall, 2002

§ Pyridoxine; O<sup>1'</sup>-Me, O<sup>2'</sup>-[β-D-glucuronopyranosyl-(1→2)-β-D-glucopyranoside]

[化学名・別名] Julibrine I  
 [化合物分類] アルカロイド化合物 (Miscellaneous pyridine alkaloid)  
 [構造式]



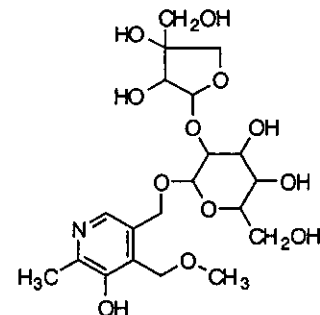
[分子式] C<sub>21</sub>H<sub>31</sub>NO<sub>14</sub>  
 [分子量] 521.474  
 [正確な分子量] 521.174459  
 [基原] 次の植物の茎皮から分離: *Albizia julibrissin*  
 [性状] 粉末  
 [比旋光度]: [α]<sub>D</sub> -20 (MeOH)

-----文献-----

Coffen, D.L., Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, 24, 94, (レビュー)  
 Aboul-Enein, H.Y. et al., Anal. Profiles Drug Subst., 1984, 13, 447, (レビュー, 合成法, 分析, 薬理)  
 Likos, J.J. et al., Vitamin B6 Pyridoxal Phosphate: Chemical, Biochemical and Medical Aspects, Part A, (ed. Dolphin, D. et al), Wiley-Interscience, 1986, 13, (レビュー)  
 Korpela, T. et al., Biochemistry of Vitamin B6, Birkhäuser Verlag, 1987, (専門書)  
 Higuchi, H. et al., Chem. Pharm. Bull., 1992, 40, 829, (Julibrine)  
 Spenser, I.D. et al., Nat. Prod. Rep., 1995, 12, 555, (レビュー, 生合成)

§ Pyridoxine; O<sup>1'</sup>-Me, O<sup>2'</sup>-[β-D-apiofuranosyl-(1→2)-β-D-glucopyranoside]

[化学名・別名] Julibrine II  
 [化合物分類] アルカロイド化合物 (Miscellaneous pyridine alkaloid)  
 [構造式]



[分子式] C<sub>20</sub>H<sub>31</sub>NO<sub>12</sub>  
 [分子量] 477.464  
 [正確な分子量] 477.184629  
 [基原] *Albizia julibrissin* の茎皮  
 [用途] 不整脈誘発作用を示す  
 [性状] 粉末  
 [比旋光度]: [α]<sub>D</sub> -65.2 (MeOH)

-----文献-----

Higuchi, H. et al., Chem. Pharm. Bull., 1992, 40, 829, (Julibrine)

§ Stigmasta-7,22-dien-3-one; (5 $\alpha$ ,22E,24)-form

[化学名・別名]  $\alpha$ -Spinasterone

[CAS No.] 23455-44-9

[化合物分類] ステロイド (Stigmastane steroid). (C29).

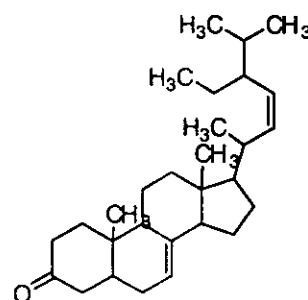
[構造式]

[基原] 次の植物から分離: *Albizia julibrissin* の心材, *Acacia concinna* の樹皮

[性状] 針状結晶 (Me<sub>2</sub>CO)

[融点] Mp 170-172 °C (164-166 °C)

[比旋光度]:  $[\alpha]_D^{20} +23$



-----文献-----

Mahato, S.B. et al., Phytochemistry, 1972, 11, 2116, (分離, 合成法)

Nakano, Y. et al., Mokuzai Gakkaishi, 1975, 21, 577; CA, 84, 102290w, (分離)

Iyer, C. et al., Phytochemistry, 1978, 17, 2036, (分離)

Herath, H.M.T.B. et al., ACGC Chem. Res. Commun., 1999, 9, 3, (分離)

Akihisa, T. et al., Chem. Pharm. Bull., 1999, 47, 1161, (H-NMR, C13-NMR)

§ Syringaresinol; (-)-form, 4-O- $\beta$ -D-Glucopyranoside

[CAS No.] 137038-13-2

[化合物分類] リグナン化合物 (Simple furofuranoid lignan)

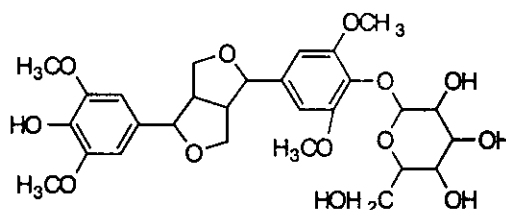
[構造式]

[分子式] C<sub>28</sub>H<sub>36</sub>O<sub>13</sub>

[分子量] 580.585

[正確な分子量] 580.215595

[基原] *Albizia julibrissin*



-----文献-----

Nimz, H. et al., Chem. Ber., 1965, 98, 538, (分離, (±)-Syringaresinol)

Seikel, M.F. et al., Phytochemistry, 1971, 10, 2249, (分離)

Sudo, K. et al., CA, 1973, 79, 32818v, (分離)

Bryan, R.F. et al., J.C.S. Perkin 2, 1976, 341, (結晶構造, 成書)

Fujimoto, H. et al., CA, 1977, 87, 197244h, (分離)

Bytheway, I.R. et al., Aust. J. Chem., 1987, 40, 1913, (絶対構造, 結晶構造)

Vermes, B. et al., Phytochemistry, 1991, 30, 3087, (合成法, Acanthosides, 配糖体)

Chakravarty, A.K. et al., Indian J. Chem., Sect. B, 1994, 33, 405, (分離, (-)-form)

Das, B. et al., Fitoterapia, 1999, 70, 101, (Syringaresinol, H-NMR)

§ Syringaresinol; (-)-form, 4-O-[ $\beta$ -D-Apiofuranosyl-(1 $\rightarrow$ 2)- $\beta$ -D-glucopyranoside]

[CAS No.] 136997-64-3

[化合物分類] リグナン化合物 (Simple furofuranoid lignan)

[構造式]

[分子式] C<sub>33</sub>H<sub>44</sub>O<sub>17</sub>

[分子量] 712.7

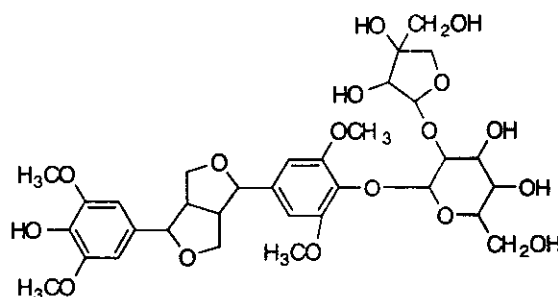
[正確な分子量] 712.257855

[基原] 次の植物から分離: *Albizia julibrissin* の茎皮

[用途] 鎮静に活性を示す。

[性状] 青白い黄色の粉末

[比旋光度]:  $[\alpha]_D -2.6$  (MeOH)



-----文献-----

Nimz, H. et al., Chem. Ber., 1965, 98, 538, (分離, (±)-Syringaresinol)

Seikel, M.F. et al., Phytochemistry, 1971, 10, 2249, (分離)

Sudo, K. et al., CA, 1973, 79, 32818v, (分離)

Bryan, R.F. et al., J.C.S. Perkin 2, 1976, 341, (結晶構造, 成書)  
 Fujimoto, H. et al., CA, 1977, 87, 197244h, (分離)  
 Bytheway, I.R. et al., Aust. J. Chem., 1987, 40, 1913, (絶対構造, 結晶構造)  
 Kinjo, J. et al., Chem. Pharm. Bull., 1991, 39, 1623, ((-)-Syringaresinol glycoside)  
 Chakravarty, A.K. et al., Indian J. Chem., Sect. B, 1994, 33, 405, (分離, (-)-form)  
 Das, B. et al., Fitoterapia, 1999, 70, 101, (Syringaresinol, H-NMR)

§ Syringaresinol; (-)-form, 4-O-[β-D-Apiofuranosyl-(1 → 2)-β-D-glucopyranoside], 4'-O-β-D-glucopyranoside

[CAS No.]136997-65-4

[化合物分類]リグナン化合物(Simple furofuranoid lignan)

[構造式]

[分子式]C<sub>39</sub>H<sub>54</sub>O<sub>22</sub>

[分子量]874.842

[正確な分子量]874.31068

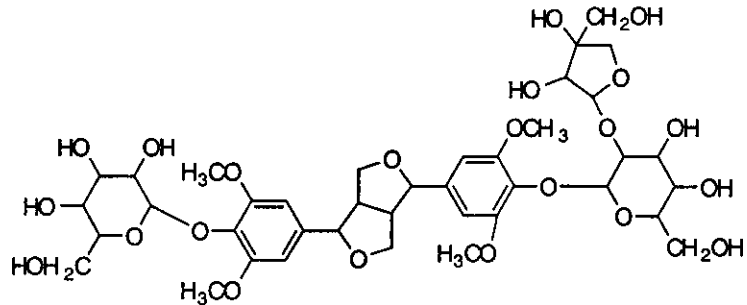
[基原]次の植物から分離: *Albizzia*

*julibrissin* の茎皮

[用途]鎮静に活性を示す.

[性状]青白い黄色の粉末

[比旋光度]:[α]<sub>D</sub> -23.6 (MeOH)



-----文献-----

Nimz, H. et al., Chem. Ber., 1965, 98, 538, (分離, (±)-Syringaresinol)  
 Seikel, M.F. et al., Phytochemistry, 1971, 10, 2249, (分離)  
 Sudo, K. et al., CA, 1973, 79, 32818v, (分離)  
 Bryan, R.F. et al., J.C.S. Perkin 2, 1976, 341, (結晶構造, 成書)  
 Fujimoto, H. et al., CA, 1977, 87, 197244h, (分離)  
 Bytheway, I.R. et al., Aust. J. Chem., 1987, 40, 1913, (絶対構造, 結晶構造)  
 Kinjo, J. et al., Chem. Pharm. Bull., 1991, 39, 1623, ((-)-Syringaresinol glycoside)  
 Das, B. et al., Fitoterapia, 1999, 70, 101, (Syringaresinol, H-NMR)

§ Syringaresinol; (-)-form, Di-O-[β-D-apiofuranosyl(1 → 2)-β-D-glucopyranoside]

[CAS No.]136997-66-5

[化合物分類]リグナン化合物(Simple furofuranoid lignan)

[構造式]

[分子式]C<sub>44</sub>H<sub>62</sub>O<sub>26</sub>

[分子量]1006.958

[正確な分子量]1006.35294

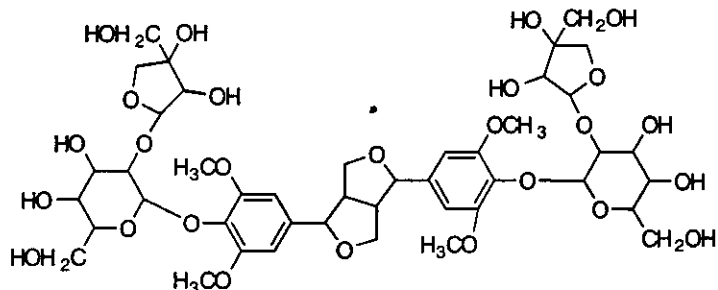
[基原]次の植物から分離: *Albizzia*

*julibrissin* の茎皮

[用途]鎮静に活性を示す.

[性状]青白い黄色の粉末

[比旋光度]:[α]<sub>D</sub> -30.7 (MeOH)



-----文献-----

Nimz, H. et al., Chem. Ber., 1965, 98, 538, (分離, (±)-Syringaresinol)  
 Seikel, M.F. et al., Phytochemistry, 1971, 10, 2249, (分離)  
 Sudo, K. et al., CA, 1973, 79, 32818v, (分離)  
 Bryan, R.F. et al., J.C.S. Perkin 2, 1976, 341, (結晶構造, 成書)  
 Fujimoto, H. et al., CA, 1977, 87, 197244h, (分離)  
 Bytheway, I.R. et al., Aust. J. Chem., 1987, 40, 1913, (絶対構造, 結晶構造)  
 Kinjo, J. et al., Chem. Pharm. Bull., 1991, 39, 1623, ((-)-Syringaresinol glycoside)  
 Das, B. et al., Fitoterapia, 1999, 70, 101, (Syringaresinol, H-NMR)

§ Syringaresinol; (-)-form, Di-O-β-D-glucopyranoside

[化学名・別名]Acanthoside D. Eleutheroside E

[CAS No.] 96038-87-8

[化合物分類] リグナン化合物 (Simple furofuranoid lignan)

[構造式]

[分子式]  $C_{34}H_{46}O_{18}$

[分子量] 742.727

[正確な分子量] 742.26842

[基原] 次の植物から分離: シベリアのチョ

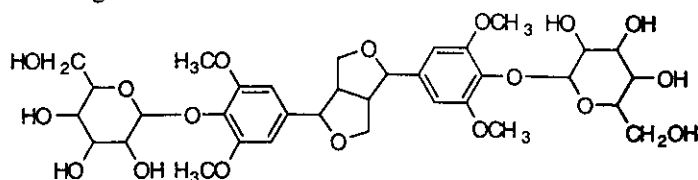
ウセンニンジン (*Eleutherococcus*

(*Acanthopanax senticosu*), *Ligustrum japonicum*, *Liriodendron tulipifera*, *Albizzia julibrissin*, *Viscum album*

[性状] 針状結晶

[融点] Mp 269-270 °C

[比旋光度]:  $[\alpha]_D^{25} -18.5$  (c, 0.54 in 50% EtOH 溶液)



-----文献-----

Nimz, H. et al., Chem. Ber., 1965, 98, 538, (分離, (±)-Syringaresinol)

Seikel, M.F. et al., Phytochemistry, 1971, 10, 2249, (分離)

Sudo, K. et al., CA, 1973, 79, 32818v, (分離)

Bryan, R.F. et al., J.C.S. Perkin 2, 1976, 341, (結晶構造, 成書)

Fujimoto, H. et al., CA, 1977, 87, 197244h, (分離)

Bytheway, I.R. et al., Aust. J. Chem., 1987, 40, 1913, (絶対構造, 結晶構造)

Kinjo, J. et al., Chem. Pharm. Bull., 1991, 39, 1623, ((-)-Syringaresinol glycoside)

Chakravarty, A.K. et al., Indian J. Chem., Sect. B, 1994, 33, 405, (分離, (-)-form)

Das, B. et al., Fitoterapia, 1999, 70, 101, (Syringaresinol, H-NMR)

### § 3,16,21,30-Tetrahydroxy-12-oleanen-28-oic acid; (3 β,16 α,21 β)-form

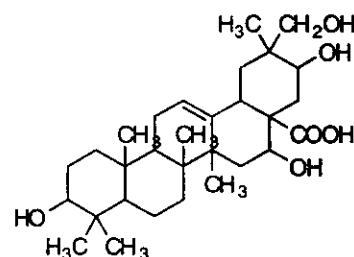
[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式]

[基原] 次の植物から得られるサボゲニン: *Albizzia julibrissin*

[性状] 無定型の粉末

[比旋光度]:  $[\alpha]_D^{25} +2$  (c, 0.14 in Py)



-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (分離, H-NMR, C13-NMR)

### § 3,16,21,30-Tetrahydroxy-12-oleanen-28-oic acid; (3 β,16 α,21 β)-form, 28 → 21-Lactone

[化学名・別名] 3,16,30-Trihydroxy-12-oleanen-28,21-olide. Julibrogenin B

[CAS No.] 148299-18-7

[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式]

[分子式]  $C_{30}H_{46}O_5$

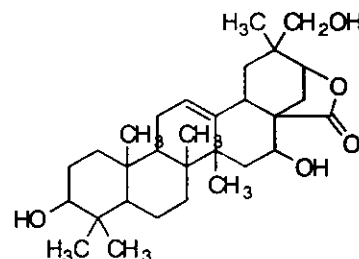
[分子量] 486.69

[正確な分子量] 486.334525

[基原] *Albizzia julibrissin* から得られる配糖体

[性状] 無定型の粉末

[比旋光度]:  $[\alpha]_D^{25} +18.1$  (c, 0.17 in MeOH)



-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (分離, H-NMR, C13-NMR)

### § 3,16,21,30-Tetrahydroxy-12-oleanen-28-oic acid; (3 β,16 α,21 β)-form, 28 → 21-Lactone, 3-O-[β-D-glucopyranosyl-(1 → 4)-β-D-glucopyranoside], 16-O-β-D-glucopyranoside

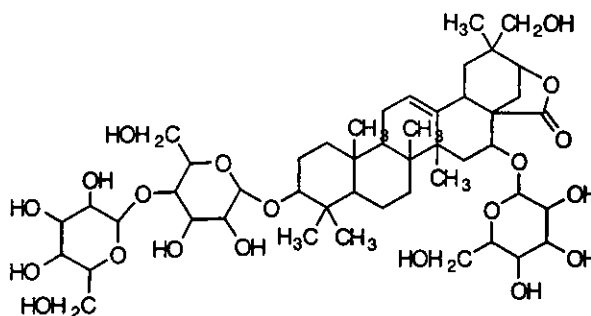
[化学名・別名] Julibroside B

[CAS No.] 148299-16-5

[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式]

[分子式]  $C_{49}H_{76}O_{20}$   
 [分子量] 973.116  
 [正確な分子量] 972.493  
 [基原] *Albizzia julibrissin*  
 [性状] 無定型の粉末  
 [比旋光度]:  $[\alpha]_D^{25} -7.7$  (c, 0.48 in MeOH)

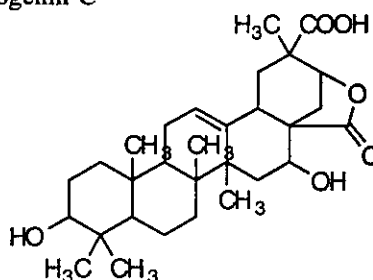


-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (分離, H-NMR, C13-NMR)

§ 3,16,21,30-Tetrahydroxy-12-oleanen-28-oic acid; (3  $\beta$ ,16  $\alpha$ ,21  $\beta$ )-form, 30-Carboxylic acid, 28  $\rightarrow$  21-lactone

[化学名・別名] 3,16-Dihydroxy-12-oleanene-28,21-olid-30-oic acid. Julibrogenin C  
 [CAS No.] 148299-11-0  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]



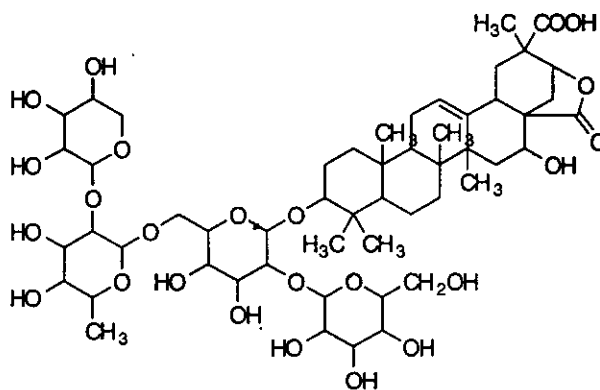
[分子式]  $C_{30}H_{44}O_6$   
 [分子量] 500.674  
 [正確な分子量] 500.31379  
 [基原] *Albizzia julibrissin* から得られる配糖体

-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (分離, H-NMR, C13-NMR)

§ 3,16,21,30-Tetrahydroxy-12-oleanen-28-oic acid; (3  $\beta$ ,16  $\alpha$ ,21  $\beta$ )-form, 30-Carboxylic acid, 28  $\rightarrow$  21-lactone, 3-O- $[\beta$ -D-xylopyranosyl-(1  $\rightarrow$  2)]- $\beta$ -D-fucopyranosyl-(1  $\rightarrow$  6)- $[\beta$ -D-glucopyranosyl-(1  $\rightarrow$  2)]- $\beta$ -D-glucopyranoside

[化学名・別名] Julibroside C,  
 [CAS No.] 148299-17-6  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]



[分子式]  $C_{53}H_{82}O_{24}$   
 [分子量] 1103.216  
 [正確な分子量] 1102.51961  
 [基原] *Albizzia julibrissin*  
 [性状] 無定型の粉末  
 [比旋光度]:  $[\alpha]_D^{25} -15.8$  (c, 0.48 in MeOH)

-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (分離, H-NMR, C13-NMR)

§ 3,16,21-Trihydroxy-12-oleanen-28-oic acid; (3  $\beta$ ,16  $\alpha$ ,21  $\beta$ )-form, 21-(2-Hydroxymethyl-6-methoxy-

6-methyl-2,7-octadienoyl)

[化学名・別名] Julibrogenin A

[CAS No.] 199468-73-0

[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式]

[分子式]  $C_{41}H_{64}O_8$

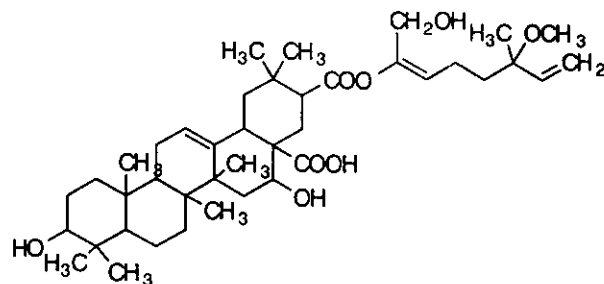
[分子量] 684.952

[正確な分子量] 684.46012

[基原] *Albizia julibrissin*

[性状] 結晶

[融点] Mp 244-246 °C



-----文献-----

Chen, S.P. et al., Yaoxue Xuebao, 1997, 32, 144, (Julibrogenin A)

§ 3,16,21-Trihydroxy-12-oleanen-28-oic acid; (3  $\beta$ ,16  $\alpha$ ,21  $\beta$ )-form, 28  $\rightarrow$  21-Lactone, 3-O-[ $\beta$ -D-xylopyranosyl-(1  $\rightarrow$  2)]- $\beta$ -D-fucopyranosyl-(1  $\rightarrow$  6)-[ $\beta$ -D-glucopyranosyl-(1  $\rightarrow$  2)]- $\beta$ -D-glucopyranoside]

[化学名・別名] Julibroside A<sub>1</sub>

[CAS No.] 148299-12-1

[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式]

[分子式]  $C_{55}H_{84}O_{22}$

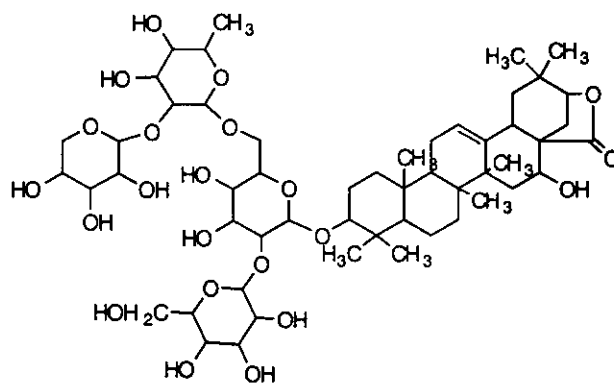
[分子量] 1073.233

[正確な分子量] 1072.54543

[基原] *Albizia julibrissin*

[性状] 無定型の粉末

[比旋光度]:  $[\alpha]_D^{25}$  -12.6 (c, 0.48 in MeOH)



-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (Julibroside)

Kang, S. et al., Zhongguo Zhongyao Zazhi, 1992, 17, 357; CA, 117, 188252v, (Julibrotrepenoidal lactone A)

Ikeda, T. et al., J. Nat. Prod., 1997, 60, 102, (Julibroside)

Chen, S.P. et al., Yaoxue Xuebao, 1997, 32, 144, (Julibrogenin A)

§ 3,16,21-Trihydroxy-12-oleanen-28-oic acid; (3  $\beta$ ,16  $\alpha$ ,21  $\beta$ )-form, 28  $\rightarrow$  21-Lactone, 3-O-[ $\beta$ -D-xylopyranosyl-(1  $\rightarrow$  2)]- $\beta$ -D-fucopyranosyl-(1  $\rightarrow$  6)- $\beta$ -D-glucopyranoside]

[化学名・別名] Julibroside A<sub>2</sub>

[CAS No.] 148299-13-2

[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式]

[分子式]  $C_{47}H_{74}O_{17}$

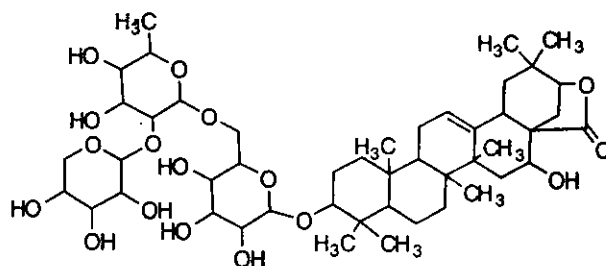
[分子量] 911.091

[正確な分子量] 910.492605

[基原] *Albizia julibrissin*

[性状] 無定型の粉末

[比旋光度]:  $[\alpha]_D^{25}$  -15.2 (c, 0.48 in MeOH)



-----文献-----

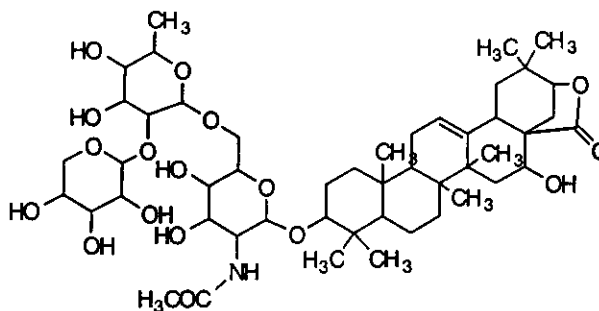
Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (Julibroside)

Ikeda, T. et al., J. Nat. Prod., 1997, 60, 102, (Julibroside)

§ 3,16,21-Trihydroxy-12-oleanen-28-oic acid; (3  $\beta$ ,16  $\alpha$ ,21  $\beta$ )-form, 28  $\rightarrow$  21-Lactone, 3-O-[ $\beta$ -D-xylopyranosyl-(1  $\rightarrow$  2)]- $\beta$ -D-fucopyranosyl-(1  $\rightarrow$  6)-2-acetylamino-2-deoxy- $\beta$ -D-glucopyranoside]



[化学名・別名] Julibroside A<sub>3</sub>  
 [CAS No.] 148299-14-3  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]  
 [分子式] C<sub>49</sub>H<sub>77</sub>NO<sub>17</sub>  
 [分子量] 952.144  
 [正確な分子量] 951.519154  
 [基原] *Albizia julibrissin*  
 [性状] 無定型の粉末  
 [比旋光度]:  $[\alpha]_D^{25} -10.6$  (c, 0.32 in MeOH)

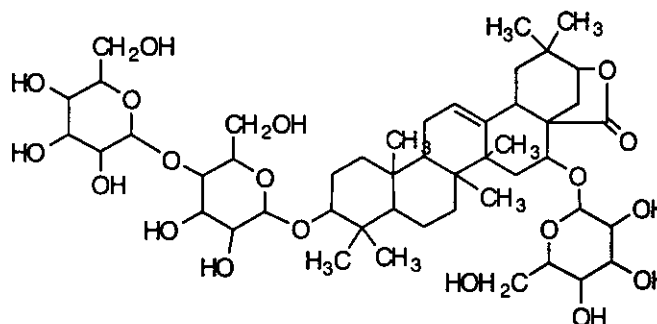


-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (Julibroside)  
 Ikeda, T. et al., J. Nat. Prod., 1997, 60, 102, (Julibroside)  
 Chen, S.P. et al., Yaoxue Xuebao, 1997, 32, 144, (Julibrogin A)

§ 3,16,21-Trihydroxy-12-oleanen-28-oic acid; (3 β,16 α,21 β)-form, 28 → 21-Lactone, 3-O- [β-D-glucopyranosyl-(1 → 4)-β-D-glucopyranoside], 16-O-β-D-glucopyranoside

[化学名・別名] Julibroside A<sub>4</sub>  
 [CAS No.] 148299-15-4  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]  
 [分子式] C<sub>48</sub>H<sub>76</sub>O<sub>19</sub>  
 [分子量] 957.117  
 [正確な分子量] 956.498085  
 [基原] *Albizia julibrissin*  
 [性状] 無定型の粉末  
 [比旋光度]:  $[\alpha]_D^{25} -16.4$  (c, 0.48 in MeOH)



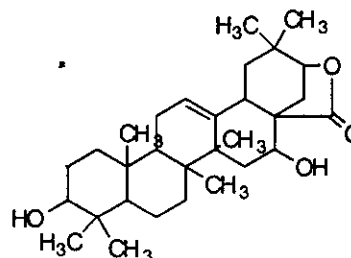
-----文献-----

Kinjo, J. et al., Chem. Pharm. Bull., 1992, 40, 3269, (Julibroside)  
 Kang, S. et al., Zhongguo Zhongyao Zazhi, 1992, 17, 357; CA, 117, 188252v, (Julibroterpenoidal lactone A)  
 Ikeda, T. et al., J. Nat. Prod., 1997, 60, 102, (Julibroside)

§ 3,16,21-Trihydroxy-12-oleanen-28-oic acid; (3 β,16 β,21 β)-form, 28 → 21-Lactone  
 [化学名・別名] 3 β,16 β-Dihydroxy-12-oleanen-28,21 β-olide. Julibroterpenoidal lactone A

[CAS No.] 30950-05-1  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]

[分子式] C<sub>30</sub>H<sub>46</sub>O<sub>4</sub>  
 [分子量] 470.691  
 [正確な分子量] 470.33961  
 [基原] *Albizia julibrissin*



-----文献-----

Kang, S. et al., Zhongguo Zhongyao Zazhi, 1992, 17, 357; CA, 117, 188252v, (Julibroterpenoidal lactone A)

\*\*\*\*\*ノットグラス (Knotgrass) \*\*\*\*\*

§ § タデ科ミチヤナギ (*Polygonum aviculare* L) の全草または根。

§ Avicularin

[化学名・別名] 3-( $\alpha$ -L-Arabinofuranosyloxy)-2-(3,4-dihydroxyphenyl)

-5,7-dihydroxy-4H-1-benzopyran-4-one (CAS 名). Quercetin 3- $\alpha$ -L-arabofuranoside. Avicularoside.

Fenicularin

[CAS No.] 572-30-5

[関連 CAS No.] 119786-64-0

[化合物分類] フラボノイド (Flavonols; 5 × O-置換基), 炭水化物 (Miscellaneous carbohydrate antibiotics)

[構造式]

[分子式]  $C_{20}H_{18}O_{11}$

[分子量] 434.356

[正確な分子量] 434.084915

[基原] *Polygonum aviculare*, *Vaccinium myrtillus*, *Juglans regia*, 等.

[性状] 黄色の針状結晶・一水和物 (EtOH 溶液)

[融点] Mp 217 °C (無水物: 222 °C)

[比旋光度]:  $[\alpha]_D^{25}$  -241 (c, 0.138 in MeOH)  $\rightarrow$  -116 (24 hr)

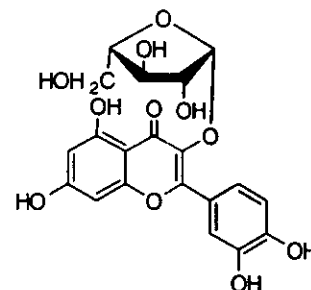
[溶解性] BERDY SOL: エタノール, 塩基に可溶; エーテルに易溶; 水, ヘキサンに難溶

[UV]: [neutral]  $\lambda_{max}$  260 ( $\epsilon$  20900); 360 ( $\epsilon$  17400) (EtOH)

-----文献-----

Ohta, T. et al., *Yakugaku Zasshi*, 1959, 79, 986; *CA*, 53, 20695, (Fenicularin)

Mabry, T.J. et al., *Tetrahedron*, 1978, 34, 1389, (C13-NMR)



§ 3',4',5,9'-Hexahydroxy-2,7'-cyclo lignan; (7'S,8R,8'R)-form, 3',5'-Di-Me ether, 9'-O- $\alpha$ -L-rhamnopyranoside

[化学名・別名] Isolariciresinol 9'-rhamnoside. Aviculin

[CAS No.] 156765-33-2

[化合物分類] リグナン化合物 (Side-chain oxygenated aryltetralin lignans)

[構造式]

[分子式]  $C_{26}H_{34}O_{10}$

[分子量] 506.549

[正確な分子量] 506.2152

[基原] *Polygonum aviculare*

[性状] 無定型の粉末

[融点] Mp 155-157 °C

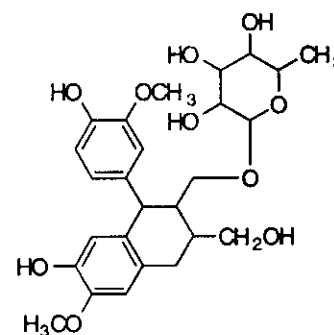
[比旋光度]:  $[\alpha]_D^{25}$  +20.3 (c, 0.07 in MeOH)

-----文献-----

Weinges, K., *Chem. Ber.*, 1961, 94, 2522, (Isolariciresinol)

Popoff, T. et al., *Acta Chem. Scand.*, Ser. B, 1977, 31, 329, (Isolariciresinol glycosides)

Lundgren, L.N. et al., *Acta Chem. Scand.*, Ser. B, 1985, 39, 241, (Isolariciresinol glycosides)



Urones, J.G. et al., *Phytochemistry*, 1987, 26, 1540, (*ent*-Isolariciresinol)  
Sashida, Y. et al., *Chem. Pharm. Bull.*, 1989, 37, 3301, (Schizandriside)  
Achenbach, H. et al., *Planta Med.*, 1992, 58, 270, (Isolariciresinol glucoside)  
Coltart, D.M. et al., *Can. J. Chem.*, 1996, 74, 88, (合成法, Isolariciresinol)

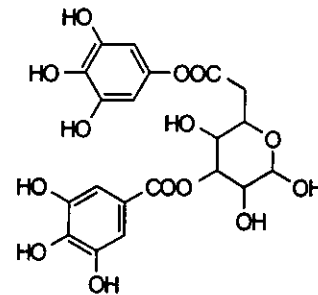
§ § タデ科イブキトラノオ (ビストルト) (*Polygonum bistorta* L.) の全草または根。

§ 3,6-Digalloylglucose; D-Pyranose-form

[CAS No.] 13186-20-4

[化合物分類] タンニン化合物 (Simple gallate ester tannins)

[構造式]



[基原] 次の植物から分離: *Geranium pratense* の根茎, *Polygonum bistorta*,  
*Tamarix aphylla*, *Myrtus communis*, *Bergenia* sp.

[性状] 結晶 (H<sub>2</sub>O)

[融点] Mp 185 °C

[比旋光度]:  $[\alpha]_D^{20} +79$  (c, 2.3 in EtOH)

-----文献-----

Schmidt, O.T. et al., *Annalen*, 1951, 571, 19; 29, (構造決定, 合成法)

Gstirner, F. et al., *Arch. Pharm. (Weinheim, Ger.)*, 1962, 295, 823; 1966, 299, 640, (分離)

Mayer, W. et al., *Annalen*, 1984, 929

Diaz, A.M. et al., *Plant. Med. Phytother.*, 1987, 21, 317, (分離)

Nawwar, M.A.M. et al., *Phytochemistry*, 1994, 36, 1035, (分離)

Lin, T.-C. et al., *J. Chin. Chem. Soc. (Taipei)*, 1999, 46, 613, (分離, Me glycoside)

§ 6-Galloylglucose

[化学名・別名]  $\beta$ -D-Glucopyranose 6-(3,4,5-trihydroxybenzoate) (CAS 名)

[CAS No.] 34781-46-9

[関連 CAS No.] 13186-19-1, 33040-89-0

[化合物分類] WA5000, WI2700, タンニン化合物 (Simple gallate ester tannins)

[分子式] C<sub>13</sub>H<sub>16</sub>O<sub>10</sub>

[分子量] 332.263

[正確な分子量] 332.07435

[基原] 次の植物から分離: *Geranium pratense* の根茎, *Polygonum bistorta*, coml. rhubarb, *Mallotus japonicus* の根

[用途] 抗高血圧作用

[性状] 結晶・二水和物 (H<sub>2</sub>O)

[融点] Mp 166 °C (110 °C から焼結)

[比旋光度]:  $[\alpha]_D +54.5 \rightarrow +36.8$  (12h) (c, 1.9 in H<sub>2</sub>O).  $[\alpha]_D^{22} +21.3$  (c, 0.4 in H<sub>2</sub>O)

-----文献-----

Schmidt, O.T. et al., *Annalen*, 1951, 571, 29, (合成法)

Gstirner, F. et al., *Arch. Pharm. (Weinheim, Ger.)*, 1962, 295, 23; 1966, 299, 640, (分離)

Nonaka, G.-I. et al., *Chem. Pharm. Bull.*, 1983, 31, 1652; 1989, 37, 2030, (H-NMR, C13-NMR, 誘導体)

Tanaka, T. et al., *Chem. Pharm. Bull.*, 1984, 32, 117, (構造決定, H-NMR, C13-NMR)

Hsu, F.-L. et al., *J. Nat. Prod.*, 1994, 57, 308, (分離, 性質)

§ § タデ科デザートノットグラス (*Polygonum dumetorum* L.) の全草または根。

該当物質なし

§ § アオサ科ボウアオノリ (アオサ) (*Enteromorpha intestinalis* Link) の葉状体。

§ (2-Carboxyethyl) dimethylsulfonium (1+)

[化学名・別名] Dimethyl-β-propiothetin

[CAS No.] 6708-36-7

[その他の CAS No.] 4337-33-1, 7314-30-9

[化合物分類] 脂肪族化合物 (Saturated unbranched carboxylic acids and lactones)

[構造式]  $\text{Me}_2\text{S}^+(\text{CH}_2\text{CH}_2\text{COOH})$

[分子式]  $\text{C}_5\text{H}_{11}\text{O}_2\text{S}^+$

[分子量] 135.207

[正確な分子量] 135.047975

[基原] 次の植物から分離: 緑藻及び紅藻, 例えば, *Enteromorpha intestinalis*, *Ulva lactuca*. また *Spartina anglica* から得られる

[用途] Dimethyl sulfide の生物学的前駆体. Fish feeding stimulant

[性状] 針状結晶 (EtOH) (as chloride)

[融点] Mp 134 °C で分解 (129 °C)

[PKa 値] pKa 3.35

-----文献-----

Challenger, F. et al., J.C.S., 1948, 1591, (分離)

Greene, R.C. et al., J. Biol. Chem., 1962, 237, 2251, (合成)

Larher, F. et al., Phytochemistry, 1977, 16, 2019, (分離)

Sciuto, S. et al., J. Nat. Prod., 1988, 51, 322, (分離)

§ Communesin A

[CAS No.] 148439-45-6

[化合物分類] アルカロイド化合物 (Miscellaneous polycyclic alkaloids)

[構造式]

[分子式]  $\text{C}_{38}\text{H}_{52}\text{N}_4\text{O}_2$

[分子量] 456.586

[正確な分子量] 456.252526

[基原] 次の物質から得られる代謝物: 海藻 *Enteromorpha intestinalis* から分離される *Penicillium* sp. の菌糸体

[用途] 細胞毒

[性状] 無定形の粉末

[融点] Mp 194-196 °C

[比旋光度]:  $[\alpha]_D^{25} -58$  (c, 0.14 in  $\text{CHCl}_3$ )

[UV]: [acid]  $\lambda_{\text{max}}$  (溶媒の報告はない) (Derep) [neutral]  $\lambda_{\text{max}}$  208 ( $\epsilon$  53700); 247 ( $\epsilon$  12300); 268 ( $\epsilon$  11500); 290 (sh) ( $\epsilon$  3980); 315 ( $\epsilon$  2880) (EtOH) (Derep)

-----文献-----

Numata, A. et al., Tet. Lett., 1993, 34, 2355, (分離, IR, H-NMR, C13-NMR, 構造決定)

§ Communesin B

[CAS No.] 148439-46-7

[化合物分類] アルカロイド化合物 (Miscellaneous polycyclic alkaloids)

[構造式] As Communesin A with R =  $\text{H}_2\text{C}=\text{CHCH}=\text{CHCH}_2\text{CO}-$

[分子式]  $\text{C}_{32}\text{H}_{56}\text{N}_4\text{O}_2$

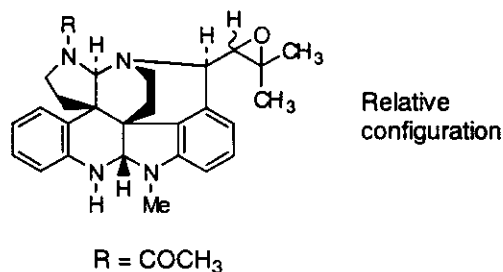
[分子量] 508.662

[正確な分子量] 508.283826

[基原] 次の物質から得られる代謝物: 海藻 *Enteromorpha intestinalis* から分離される *Penicillium* sp. の菌糸体

[用途] 細胞毒

[性状] 無定形の粉末



[融点] Mp 152-154 °C

[比旋光度]:  $[\alpha]_D^{22} +8.7$  (c, 0.23 in CHCl<sub>3</sub>)

[UV]: [acid]  $\lambda_{max}$  (溶媒の報告はない) (Derep) [neutral]  $\lambda_{max}$  208 ( $\epsilon$  45700); 250 (sh) ( $\epsilon$  32400); 266 ( $\epsilon$  38900); 315 ( $\epsilon$  3090) (EtOH) (Derep)

-----文献-----

Numata, A. et al., Tet. Lett., 1993, 34, 2355, (分離, H-NMR, C13-NMR, 構造決定)

### § Penostatin I; (+)-form

[CAS No.] 204198-97-0

[化合物分類] 脂肪族化合物 (Polycyclic aldehydes and ketones)

[構造式]

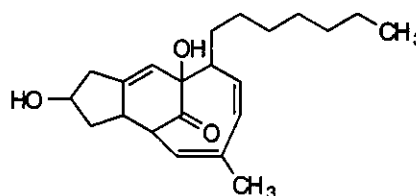
[基原] 藻類 *Enteromorpha intestinalis* から分離される *Penicillium* sp. によって作られる

[用途] 細胞毒薬

[性状] オイル

[比旋光度]:  $[\alpha]_D +13.3$  (c, 0.3 in CHCl<sub>3</sub>)

[UV]: [neutral]  $\lambda_{max}$  230 (sh) (log  $\epsilon$  4.01) (EtOH)



-----文献-----

Iwamoto, C. et al., J.C.S. Perkin 1, 1998, 449, (分離, UV, CD, H-NMR, C13-NMR, Mass)

### § Penostatin I; (-)-form, 2-Epimer

[化学名・別名] Penostatin F

[CAS No.] 183659-20-3

[化合物分類] 脂肪族化合物 (Polycyclic aldehydes and ketones)

[構造式]

[分子式] C<sub>27</sub>H<sub>32</sub>O<sub>3</sub>

[分子量] 344.493

[正確な分子量] 344.235145

[基原] 藻類 *Enteromorpha intestinalis* から分離される *Penicillium* sp. によって作られる

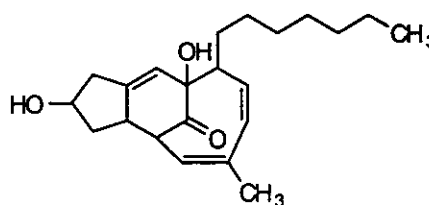
[用途] 細胞毒薬

[性状] オイル

[比旋光度]:  $[\alpha]_D -12.5$  (c, 0.2 in CHCl<sub>3</sub>)

[溶解性] BERDY SOL: メタノール, クロロホルムに可溶; 水に難溶

[UV]: [neutral]  $\lambda_{max}$  232 (sh) (log  $\epsilon$  3.93) (EtOH) [neutral]  $\lambda_{max}$  232 (); 281 ( $\epsilon$  646) (MeOH)



-----文献-----

Iwamoto, C. et al., J.C.S. Perkin 1, 1998, 449, (分離, UV, CD, H-NMR, C13-NMR, Mass)

### § Penostatin G

[CAS No.] 183659-21-4

[化合物分類] 脂肪族化合物 (Polycycloheteroalicyclic compounds)

[構造式]

[分子式] C<sub>27</sub>H<sub>34</sub>O<sub>5</sub>

[分子量] 390.519

[正確な分子量] 390.240625

[基原] 藻類 *Enteromorpha intestinalis* から分離される *Penicillium* sp. によって作られる

[用途] 細胞毒 agent

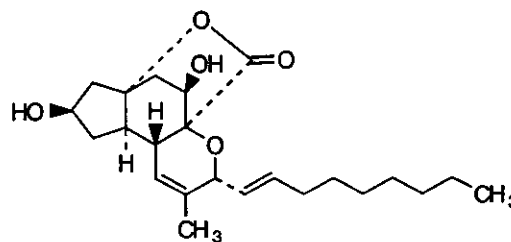
[性状] オイル

[比旋光度]:  $[\alpha]_D -35.1$  (c, 0.3 in CHCl<sub>3</sub>)

[溶解性] BERDY SOL: メタノール, クロロホルムに可溶; 水に難溶

-----文献-----

Iwamoto, C. et al., J.C.S. Perkin 1, 1998, 449, (分離, CD, H-NMR, C13-NMR, Mass)



§ Penostatin G; 7-Epimer

[化学名・別名] Penostatin H

[CAS No.] 204198-96-9

[化合物分類] 脂肪族化合物 (Polycycloheteroalicyclic compounds)

[構造式]

[分子式]  $C_{23}H_{34}O_5$

[分子量] 390.519

[正確な分子量] 390.240625

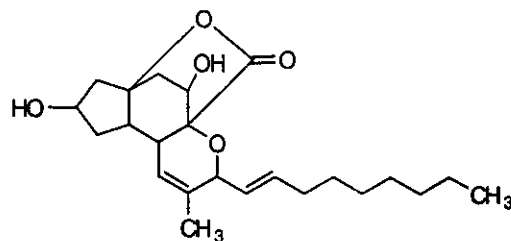
[基原] 藻類 *Enteromorpha intestinalis* から分離される *Penicillium* sp. によって作られる

[用途] 細胞毒 agent

[性状] オイル

[比旋光度]:  $[\alpha]_D -11.4$  (c, 0.2 in  $CHCl_3$ )

[溶解性] BERDY SOL: メタノール, クロロホルムに可溶; 水に難溶



-----文献-----

Iwamoto, C. et al., J.C.S. Perkin 1, 1998, 449, (分離, CD, H-NMR, C13-NMR, Mass)

§ § ウシケノリ科スサビノリ (*Porphyra yezoensis* Ueda) の葉状体。

該当物質なし

§ § ウシケノリ科アマノリ (*Porphyra tenera* Kjellman) の葉状体。

§ 8,11,14-Heptadecatrienal; (all-Z)-form, 14,15-Dihydro

[化学名・別名] 8,11-Heptadecadienal

[CAS No.] 56797-42-3

[化合物分類] 脂肪族化合物 (Unbranched alkenic aldehydes and ketones)

[構造式]

[分子式]  $C_{17}H_{30}O$

[分子量] 250.423

[正確な分子量] 250.229665

[基原] キュウリ, タバコ. また *Enteromorpha* sp.,

*Porphyra tenera*, *Scytosiphon lomentaria*, *Ulva pertusa* から得られる

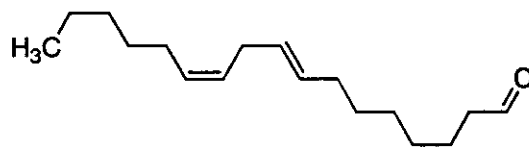
-----文献-----

Kemp, T.R., J. Am. Oil Chem. Soc., 1975, 52, 300, (生育)

Stoessl, A., Can. J. Microbiol., 1985, 31, 129, (分離)

Hamilton-Kemp, T.R. et al., Phytochemistry, 1986, 25, 241, (分離)

Kajiwarra, T. et al., Phytochemistry, 1989, 28, 407; 1990, 29, 745; 1993, 32, 193; 1991, 30, 1805, (分離)



§ 8,11,14-Heptadecatrienal; (all-Z)-form, 11,12,14,15-Tetrahydro

[化学名・別名] 8-Heptadecenal

[CAS No.] 56797-41-2

[化合物分類] 脂肪族化合物 (Unbranched alkenic aldehydes and ketones)

[構造式]

[分子式]  $C_{17}H_{32}O$

[分子量] 252.439

[正確な分子量] 252.245315

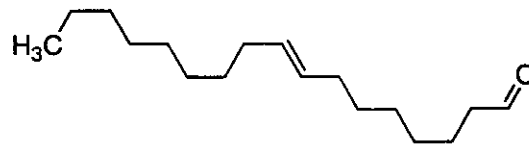
[基原] キュウリ, タバコ. また *Enteromorpha* sp., *Porphyra tenera*, *Scytosiphon lomentaria*, *Ulva pertusa*, *Cercospora arachidicola* から得られる

[性状] オイル

-----文献-----

Kemp, T.R., J. Am. Oil Chem. Soc., 1975, 52, 300, (生育)

Stoessl, A., Can. J. Microbiol., 1985, 31, 129, (分離)



Hamilton-Kemp, T.R. et al., *Phytochemistry*, 1986, 25, 241, (分離)

Kajiwara, T. et al., *Phytochemistry*, 1989, 28, 407; 1990, 29, 745; 2193; 1991, 30, 1805, (分離)

### § Mytilin B

[化学名・別名] Porphyra 334

[CAS No.] 70579-26-9

[関連 CAS No.] 73495-42-8, 79980-53-3

[化合物分類] アルカロイド化合物 (Nitrogenous marine toxins)

[構造式]

[分子式]  $C_{14}H_{23}N_3O_8$  (\*)

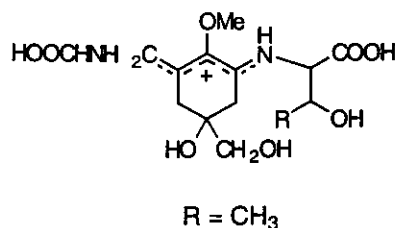
[分子量] 347.344

[正確な分子量] 347.145443

[基原] 次の植物から分離: 食用ムラサキガイ: *Mytilus galloprovincialis* as a 1:3 inseparable mixt. with Mytilin A. また *Porphyra tenera*, *Halocyanthia roretzi* から得られる

[性状] 粉末

[UV]: [neutral]  $\lambda_{max}$  334 ( $\epsilon$  42300) (H<sub>2</sub>O)



-----文献-----

Takano, S. et al., *Chem. Lett.*, 1979, 419, (分離, UV)

Chioccare, F. et al., *Tet. Lett.*, 1979, 3181, (UV, H-NMR, C13-NMR, Mass, 構造決定)

Kobayashi, J. et al., *Tet. Lett.*, 1981, 22, 3001, (分離)

### § Palythenic acid; (E)-form, 2',3'-Dihydro, 3'-hydroxy

[化学名・別名] 2-[[3-[(Carboxymethyl) amino]-5-hydroxy-5-(hydroxymethyl)

-2-methoxy-2-cyclohexen-1-ylidene] amino]-3-hydroxybutanoic acid

[化合物分類] アミノ酸とペプチド (Miscellaneous modified aminoacids), アルカロイド化合物 (Nitrogenous marine toxins)

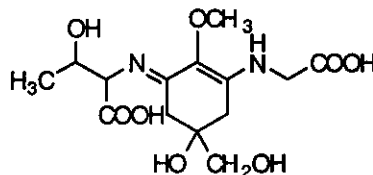
[構造式]

[分子式]  $C_{14}H_{23}N_3O_8$

[分子量] 346.336

[正確な分子量] 346.137618

[基原] 次の植物から分離: *Porphyra tenera*



-----文献-----

Hirata, Y. et al., *Pure Appl. Chem.*, 1979, 51, 1875, (分離, UV, C13-NMR, 構造決定, 誘導体)

Kobayashi, J. et al., *Tet. Lett.*, 1981, 22, 3001, (分離, UV, H-NMR, C13-NMR)

Japan. Pat., 1982, 82 62 243; CA, 97, 196864e, (分離)

Carreto, J.I. et al., *J. Plankton Res.*, 1990, 12, 909, (分離, UV)

### § 2,6-Piperidinedicarboxylic acid

[化学名・別名] Hexahydrodipicolinic acid. Dipipecolic acid

[CAS No.] 499-82-1

[関連 CAS No.] 6039-37-8, 21495-53-4, 59234-46-7

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

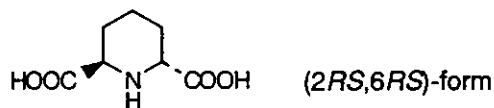
[構造式]

[分子式]  $C_7H_{11}NO_4$

[分子量] 173.168

[正確な分子量] 173.068809

[基原] 次の植物から分離: *Porphyra tenera*



-----文献-----

Barnes, R.A. et al., *J.A.C.S.*, 1953, 75, 975, (合成法, 構造)

Kawanchi, H. et al., *Nippon Suisan Gakkaishi*, 1978, 44, 1371, (分離, 合成法)

Chrystal, E.J.T. et al., *Tetrahedron*, 1995, 51, 10241, (合成法, acid, diamides)

Chênevert, R. et al., *J.O.C.*, 1996, 61, 3332, (Di-Me ester, 合成法, IR, H-NMR, C13-NMR)

\*\*\*\*\*バイオレット (Violet) \*\*\*\*\*

§ § スミレ科ニオイスマレ (*Viola odorata* L.)

§ 2,4-Dimethyldodecane

[CAS No.] 6117-99-3

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

[構造式]  $(\text{H}_3\text{C})_2\text{CHCH}_2\text{CH}(\text{CH}_3)\text{CH}_2(\text{CH}_2)_4\text{CH}_3$

[分子式]  $\text{C}_{14}\text{H}_{30}$

[分子量] 198.391

[正確な分子量] 198.23475

[基原] *Viola odorata* の花

[沸点]  $\text{Bp}_{13}$  115 °C

[濃度]  $d_{20}$  0.7614

-----文献-----

Petrov, A.A. et al., CA, 1960, 54, 1257g, (合成法)

Zil'berg, G.A. et al., CA, 1966, 64, 11046d, (合成法)

Cu, J.Q. et al., Phytochemistry, 1992, 31, 571, (生育)

§ 3,4-Dimethylheptane (CAS 名)

[CAS No.] 922-28-1

[関連 CAS No.] 52896-82-9, 57031-63-7, 57031-64-8, 75110-09-7, 75110-10-0

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

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

[分子式]  $\text{C}_9\text{H}_{20}$

[分子量] 128.257

[正確な分子量] 128.1565

[基原] *Osmanthus fragrans* と *Viola odorata* の花

[沸点]  $\text{Bp}$  140.1 °C

[その他のデータ] 光学異性体の混合物

-----文献-----

Dvoretzky, I. et al., Anal. Chem., 1963, 35, 545, (合成法)

Beierbeck, H. et al., Can. J. Chem., 1977, 55, 771; 1980, 58, 1258, (conformn, C13-NMR)

Yaws, C.L. et al., Hydrocarbon Process. Int. Ed., 1989, 68, 61, (性質)

§ 2,5-Heptadien-1-ol

[CAS No.] 62237-90-5

[関連 CAS No.] 35120-05-9, 41368-47-2

[化合物分類] 脂肪族化合物 (Unbranched alkenic alcohols)

[構造式]  $\text{H}_3\text{CCH}=\text{CHCH}_2\text{CH}=\text{CHCH}_2\text{OH}$

[分子式]  $\text{C}_7\text{H}_{12}\text{O}$

[分子量] 112.171

[正確な分子量] 112.088815

[基原] *Viola odorata* の花

-----文献-----

Binet du Jassonneix, C. et al., Bull. Soc. Chim. Fr., 1977, 1223, (合成法, IR, Raman)

Jacoby, D. et al., Synthesis, 1990, 301, (合成法)

Cu, J.Q. et al., Phytochemistry, 1992, 31, 571, (生育)

§ 5,10-Pentadecadien-1-ol

[化合物分類] 脂肪族化合物 (Unbranched alkenic alcohols)

[構造式]  $\text{H}_3\text{C}(\text{CH}_2)_3\text{CH}=\text{CH}(\text{CH}_2)_3\text{CH}=\text{CH}(\text{CH}_2)_3\text{CH}_2\text{OH}$

[分子式]  $\text{C}_{15}\text{H}_{28}\text{O}$

[分子量] 224.386

[正確な分子量] 224.214015

[基原] *Viola odorata* の花



-----文献-----

Ohloff, G. et al., *Helv. Chim. Acta*, 1977, 60, 1161  
 Cu, J.Q. et al., *Phytochemistry*, 1992, 31, 571, (生育)

§ 3-Pentadecenal

[CAS No.] 140899-08-7  
 [化合物分類] 脂肪族化合物 (Unbranched alkenic aldehydes and ketones)  
 [構造式]  $\text{H}_3\text{C}(\text{CH}_2)_{10}\text{CH}=\text{CHCH}_2\text{CHO}$   
 [分子式]  $\text{C}_{15}\text{H}_{28}\text{O}$   
 [分子量] 224.386  
 [正確な分子量] 224.214015  
 [基原] *Viola odorata* の葉

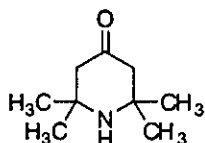
-----文献-----

Cu, J.Q. et al., *Phytochemistry*, 1992, 31, 571, (生育)

§ 2,2,6,6-Tetramethyl-4-piperidinone (CAS 名)

[化学名・別名] 4-Oxo-2,2,6,6-tetramethylpiperidine. 2,2,6,6-Tetramethyl- $\gamma$ -piperidone. Triacetoneamine. Odoratin. Vincubine  
 [CAS No.] 826-36-8  
 [化合物分類] アルカロイド化合物 (Miscellaneous piperidine alkaloids), アルカロイド化合物 (Nitrogenous marine toxins)

[構造式]  
 [分子式]  $\text{C}_9\text{H}_{17}\text{NO}$   
 [分子量] 155.239  
 [正確な分子量] 155.131014



[基原] 次の植物から分離: *Acalypha indica*, *Salsola tetrandra* (トウダイグサ科, アカザ科), また *Viola odorata* から分離. 柔らかい珊瑚 *Lobophytum strictum* の代謝物  
 [性状] 板状結晶・一水和物 (Et.O), 無水の針状結晶 (dry Et.O)  
 [融点] Mp 34.9 °C (無水物)  
 [沸点] Bp 205 °C  
 [化学物質毒性データ総覧 (RTECS) 登録番号] TO0127900

-----文献-----

Karawya, M.S. et al., *Phytochemistry*, 1971, 10, 3303, (分離)  
 De Camp, W.H. et al., *Cryst. Struct. Commun.*, 1974, 3, 427, (結晶構造)  
 Parameswaran, P.S. et al., *Indian J. Chem., Sect. B*, 1991, 30, 449, (分離, H-NMR, C13-NMR)  
 Koenig, G.M. et al., *Planta Med.*, 1998, 64, 88, (分離, H-NMR, C13-NMR)  
 Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, TDU000

\*\*\*RTECS (化学物質毒性データ)\*\*\*

生体影響物質 : 医薬品.

\*\*\*健康障害に関するデータ\*\*\*

\*\*\*急性毒性に関するデータ\*\*\*

<<試験方法>> LD50 試験 (50%致死量試験).

曝露経路 : 経口投与.  
 被験動物 : げっ歯類-ラット.  
 投与量・期間 : 1539 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.  
 参考文献

GTPZAB *Gigiena Truda i Professional'nye Zabolevaniya. Labor Hygiene and Occupational Diseases.* (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) V.1-36, 1957-1992. For publisher information, see MTPEEI [Vol.,頁,年(19-)] 28(5),53,1984

<<試験方法>> LD50 試験 (50%致死量試験).

曝露経路 : 腹腔内投与  
 被験動物 : げっ歯類-ラット.  
 投与量・期間 : 385 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。  
参考文献

APPFAR Acta Poloniae Pharmaceutica (English Translation). Translation of APPHAX. (Warsaw, Poland) V.20-29, 1963-72. Discontinued. [Vol.,頁,年(19-)]24,652,1967

<<試験方法>> LD50 試験(50%致死量試験)。

曝露経路 : 報告なし。

被験動物 : げっ歯類-マウス

投与量・期間: 500 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。

参考文献

APPFAR Acta Poloniae Pharmaceutica (English Translation). Translation of APPHAX. (Warsaw, Poland) V.20-29, 1963-72. Discontinued. [Vol.,頁,年(19-)]24,652,1967

## § § スミレ科サンシキスミレ (*Viola tricolor* L.) の葉または花。

### § Auroxanthin

[化学名・別名] 5,8:5',8'-Diepoxy-5,5',8,8'-tetrahydro- $\beta$ , $\beta$ -carotene-3,3'-diol

[CAS No.] 27785-15-5

[関連 CAS No.] 22350-65-8

[化合物分類] テルペノイド

(Tetraterpenoids)

[構造式]

[分子式]  $C_{40}H_{56}O_4$

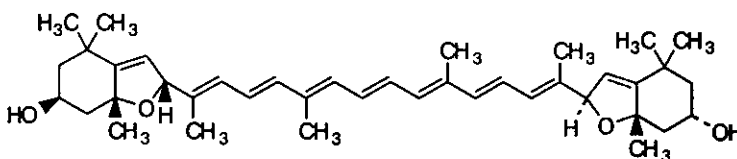
[分子量] 600.88

[正確な分子量] 600.41786

[基原] 次の植物から分離: *Viola tricolor*, *Lonicera japonica*, *Delonix regia*, その他の植物

[性状] 黄色の結晶 (EtOH)

[融点] Mp 203 °C



### 文献

Karrer, P. et al., *Helv. Chim. Acta*, 1944, 27, 1684; 1945, 28, 427, (構造決定)

Goodwin, T.W., *Biochem. J.*, 1956, 62, 346, (分離)

Jungalwala, F.B. et al., *Biochem. J.*, 1962, 85, 1, (分離)

Stobart, A.K. et al., *Phytochemistry*, 1967, 6, 1467, (分離)

Märki-Fischer, E. et al., *Helv. Chim. Acta*, 1984, 67, 2143, (分離)

### § Violanthin

[化学名・別名] 8-(6-Deoxy- $\alpha$ -L-mannopyranosyl)-6- $\beta$ -D-glucopyranosyl-5,7-dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one (CAS 名). 6-Glucopyranosyl-8-rhamnopyranosylapigenin.

6-Glucosyl-8-rhamnosylapigenin

[CAS No.] 40581-17-7

[化合物分類] フラボノイド (Flavones; 3 × O-置換基)

[構造式]

[分子式]  $C_{27}H_{30}O_{14}$

[分子量] 578.526

[正確な分子量] 578.16356

[基原] 次の植物から分離: *Viola tricolor*, *Angiopteris erecta*, その他の植物属。

[性状] 結晶 + 2.5H<sub>2</sub>O (AcOH/MeOH 溶液)

[融点] Mp 229 °C

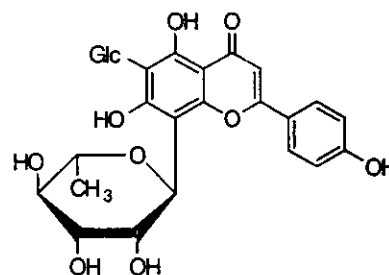
[UV]: [neutral]  $\lambda_{max}$  272 (log  $\epsilon$  4.16); 336 (log  $\epsilon$  4.45) (MeOH)

### 文献

Hörhammer, L. et al., *Tet. Lett.*, 1965, 1707, (分離)

Biol, M.C. et al., *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1972, 275, 1523, (構造決定, 合成法)

Wallace, J.W. et al., *Phytochemistry*, 1979, 18, 1077, (分離)



Carnat, A.-P. et al., J. Nat. Prod., 1998, 61, 272, (分離, UV, H-NMR, C13-NMR, Mass)

§ **Violaxanthin; (all-E)-form**

[CAS No.] 126-29-4

[化合物分類]テルペノイド (Tetraterpenoids)

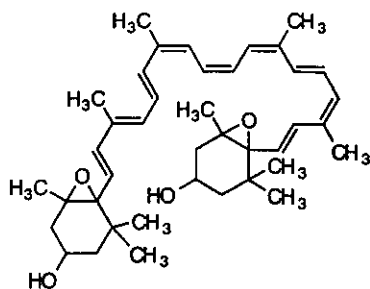
[構造式]

[基原] *Viola tricolor* を含む多くの植物

[性状] 赤色の結晶 (MeOH)

[融点] Mp 208 °C

[比旋光度]:  $[\alpha]_D^{20} +38$  (CHCl<sub>3</sub>)



-----文献-----

de Ville, T.E. et al., Chem. Comm., 1969, 1311, (絶対構造)

Stransky, H. et al., Arch. Microbiol., 1970, 71, 164, (分離, deoxy)

Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, no. 1842, (生育)

Koreeda, N. et al., J.A.C.S., 1973, 95, 239, (絶対構造)

Sapozhnikov, D.I., Pure Appl. Chem., 1973, 35, 47, (レビュー)

Lessertois, D. et al., Phytochemistry, 1978, 17, 411, (分離, deoxy)

Molnár, P. et al., Phytochemistry, 1986, 25, 195, (分離)

Straub, O. et al., Key to Carotenoids, 2nd edn., Birkhauser Verlag, Basel and Boston, 1987, 259, (成書)

§ **Violaxanthin; (9Z,9'Z)-form**

[化学名・別名] Di-cis-neoviolaxanthin A

[CAS No.] 101627-35-4

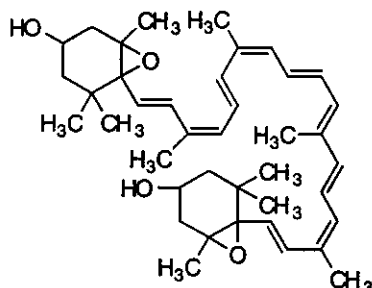
[化合物分類]テルペノイド (Tetraterpenoids)

[構造式]

[基原] *Viola tricolor*

[性状] 橙色の結晶

[融点] Mp 202 °C



-----文献-----

Stransky, H. et al., Arch. Microbiol., 1970, 71, 164, (分離, deoxy)

Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, no. 1842, (生育)

Koreeda, N. et al., J.A.C.S., 1973, 95, 239, (絶対構造)

Sapozhnikov, D.I., Pure Appl. Chem., 1973, 35, 47, (レビュー)

Lessertois, D. et al., Phytochemistry, 1978, 17, 411, (分離, deoxy)

Molnár, P. et al., Phytochemistry, 1980, 19, 623, (mono-cis isomers)

Molnár, P. et al., Phytochemistry, 1986, 25, 195, (分離)

Straub, O. et al., Key to Carotenoids, 2nd edn., Birkhauser Verlag, Basel and Boston, 1987, 259, (成書)

§ **Violaxanthin; (9Z,13Z)-form**

[化学名・別名] Di-cis-violaxanthin D

[CAS No.] 101627-32-1

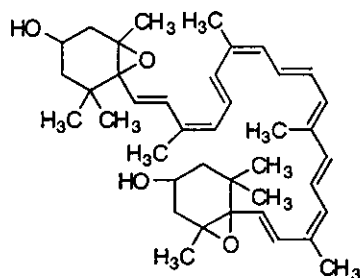
[化合物分類]テルペノイド (Tetraterpenoids)

[構造式]

[基原] *Viola tricolor*

[性状] 橙色の結晶

[融点] Mp 111 °C



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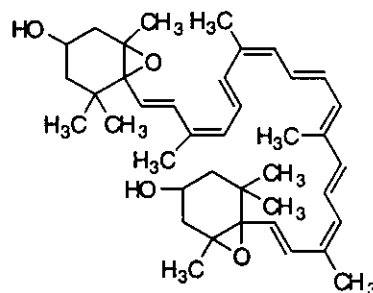
Stransky, H. et al., Arch. Microbiol., 1970, 71, 164, (分離, deoxy)

Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag,

Basel, 1972, no. 1842, (生育)  
 Koreeda, N. et al., J.A.C.S., 1973, 95, 239, (絶対構造)  
 Sapozhnikov, D.I., Pure Appl. Chem., 1973, 35, 47, (レビュー)  
 Lessertois, D. et al., Phytochemistry, 1978, 17, 411, (分離, deoxy)  
 Molnár, P. et al., Phytochemistry, 1980, 19, 623, (mono-*cis* isomers)  
 Molnár, P. et al., Phytochemistry, 1986, 25, 195, (分離)  
 Straub, O. et al., Key to Carotenoids, 2nd edn., Birkhauser Verlag, Basel and Boston, 1987, 259, (成書)

§ **Violaxanthin; (9Z,13'Z)-form**

[化学名・別名] Di-*cis*-neoviolaxanthin B  
 [CAS No.] 101627-34-3  
 [化合物分類] テルペノイド (Tetraterpenoids)  
 [構造式]



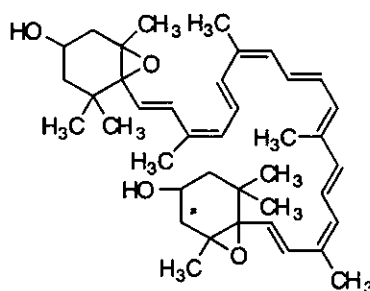
[基原] *Viola tricolor*  
 [性状] 赤色の結晶  
 [融点] Mp 135 °C

-----文献-----

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 Stransky, H. et al., Arch. Microbiol., 1970, 71, 164, (分離, deoxy)  
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 Molnár, P. et al., Phytochemistry, 1986, 25, 195, (分離)  
 Straub, O. et al., Key to Carotenoids, 2nd edn., Birkhauser Verlag, Basel and Boston, 1987, 259, (成書)

§ **Violaxanthin; (9Z,15Z)-form**

[化学名・別名] Di-*cis*-violaxanthin C  
 [CAS No.] 101627-33-2  
 [化合物分類] テルペノイド (Tetraterpenoids)  
 [構造式]



[基原] *Viola tricolor*  
 [性状] 赤色の結晶  
 [融点] Mp 87 °C

-----文献-----

Stransky, H. et al., Arch. Microbiol., 1970, 71, 164, (分離, deoxy)  
 Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, no. 1842, (生育)  
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