

\*\*\*健康障害に関するデータ\*\*\*  
\*\*\*皮膚/眼の刺激に関するデータ\*\*\*

<<試験方法>> 標準ドライズ試験.  
曝露経路 : 皮膚への塗布  
被験動物 : げっ歯類-ウサギ.  
投与量・期間 : 500 mg/24 時間  
反応の症度 : 軽度

参考文献

FCTXAV Food and Cosmetics Toxicology. (London, UK) V.1-19, 1963-81. For publisher information, see FCTOD7. [Vol.,頁,年(19-)]12,825,1974

\*\*\*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 : 1200 uL/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

JPETAB Journal of Pharmacology and Experimental Therapeutics. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10- [Vol.,頁,年(19-)]93,26,1948

<<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-マウス  
投与量・期間 : 1600 uL/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

JPETAB Journal of Pharmacology and Experimental Therapeutics. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10- [Vol.,頁,年(19-)]93,26,1948

<<試験方法>> LD50 試験 (50%致死量試験).  
曝露経路 : 皮膚への塗布  
被験動物 : げっ歯類-マウス  
投与量・期間 : >10 mL/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

JPETAB Journal of Pharmacology and Experimental Therapeutics. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10- [Vol.,頁,年(19-)]93,26,1948

<<試験方法>> LD50 試験 (50%致死量試験).  
曝露経路 : 皮膚への塗布  
被験動物 : げっ歯類-ウサギ.  
投与量・期間 : 3 gm/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

FCTXAV Food and Cosmetics Toxicology. (London, UK) V.1-19, 1963-81. For publisher information, see FCTOD7. [Vol.,頁,年(19-)]12,825,1974

\*\*\*その他の多回投与試験\*\*\*

<<試験方法>> 最小毒性量 (TDLo) 試験.  
曝露経路 : 皮膚への塗布  
被験動物 : げっ歯類-ウサギ.  
投与量・期間 : 90 mL/kg/13 週間間欠投与  
毒性影響 : [行動] 傾眠 (全身活動度の低下).  
慢性毒性に関するデータ : 死亡.

参考文献

JPETAB Journal of Pharmacology and Experimental Therapeutics. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10- [Vol.,頁,年(19-)]93,26,1948

§ 3-(4-Hydroxyphenyl)-2-propenal; (E)-form, Me ether

[化学名・別名] 3-(4-Methoxyphenyl)-2-propenal. *p*-Methoxycinnamaldehyde

[CAS No.] 24680-50-0

[その他の CAS No.] 1963-36-6

[化合物分類] 単環芳香族 (Simple phenylpropanoid)

[構造式]

[分子式]  $C_{10}H_{10}O_2$

[分子量] 162.188

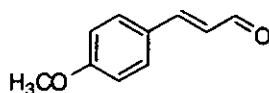
[正確な分子量] 162.06808

[基原] 次の植物から分離: oils of tarragon (*Artemisia dracunculu*); *Orthodon methylchavicoliferum*, *Agastache rugosa*, *Sphaeranthus indicus*

[性状] 黄色の針状結晶 (EtOH 溶液)

[融点] Mp 58-59 °C

[沸点] Bp<sub>15</sub> 171 °C



-----文献-----

Barik, B.R. et al., *Phytochemistry*, 1987, 26, 2126, (分離)

Naidoo, L.A.C. et al., *Phytochemistry*, 1992, 31, 3929, (分離, H-NMR, C13-NMR)

Bellassoued, M. et al., *J.O.C.*, 1993, 58, 2517, (Me ether, 合成法, H-NMR, IR)

Ilieski, T. et al., *Acta Chem. Scand.*, 1998, 52, 1177, (Me ether)

Stange, R.R. et al., *Phytochemistry*, 1999, 52, 41, (分離, H-NMR, C13-NMR)

### § *chiro*-Inositol; L-form, 3-Me

[化学名・別名] 3-*O*-Methyl-L-*chiro*-inositol. L-Pinitol

[CAS No.] 3559-00-0

[化合物分類] 炭水化物 (Cyclitol)

[構造式]

[分子式]  $C_7H_{14}O_6$

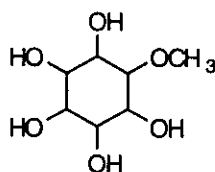
[分子量] 194.184

[正確な分子量] 194.07904

[基原] *Artemisia dracunculus*

[融点] Mp 186 °C

[比旋光度]:  $[\alpha]_D^{20}$  -65 (c, 2 in H<sub>2</sub>O)



-----文献-----

Kindl, H. et al., *Prog. Chem. Org. Nat. Prod.*, 1966, 24, 149, (レビュー)

Beverage, R.J. et al., *Aust. J. Chem.*, 1977, 30, 1583, (Galactosylpinitol)

Acena, J.L. et al., *Tetrahedron: Asymmetry*, 1996, 7, 3535, (合成法, Pinitol)

Ogawa, K. et al., *Carbohydr. Res.*, 1997, 302, 219, (Galactosylpinitol)

### § Inulobiose

[化学名・別名] 1-*O*-β-D-Fructofuranosyl-D-fructose. Diffructan

[CAS No.] 470-58-6

[化合物分類] 炭水化物 (Disaccharide)

[構造式]

[分子式]  $C_{12}H_{22}O_{11}$

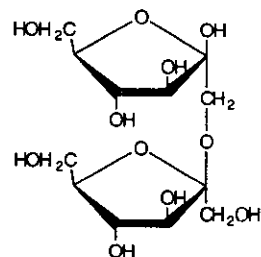
[分子量] 342.299

[正確な分子量] 342.116215

[基原] Formed by partial acid hydrol. of Inulin and by the action of purified yeast invertase on Fructose; *Artemisia absinthium* の葉と *Artemisia dracunculus* の根の成分

[比旋光度]:  $[\alpha]_D^{20}$  -72.4 (c, 2.7 in H<sub>2</sub>O) (-32.5)

[その他のデータ] 蔗糖よりも甘い



-----文献-----

Schlubach, H.H. et al., *Annalen*, 1954, 588, 192, (分離)

Andersen, B., *Acta Chem. Scand.*, 1967, 21, 828, (生育)

Lombard, A. et al., *CA*, 1976, 85, 74938p, (生育)

Calub, T.M. et al., *Carbohydr. Res.*, 1990, 207, 221, (conformn)

§ 6-Methyl-2-methylene-6-octene-1,3,8-triol

[CAS No.] 139051-31-3

[化合物分類] テルペノイド (Acyclic monoterpeneoid)

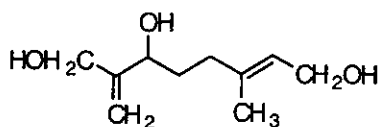
[構造式]

[分子式]  $C_{10}H_{18}O_3$

[分子量] 186.25

[正確な分子量] 186.125595

[基原] *Artemisia dracunculus*



-----文献-----

Jakupovic, J. et al., *Planta Med.*, 1991, 57, 450, (分離, H-NMR)

§ 1-Oxo-1H-2-benzopyran-3-carboxaldehyde (CAS 名)

[化学名・別名] 3-Formylisocoumarin. Isocoumarin-3-carboxaldehyde. Artemidinal

[CAS No.] 34328-51-3

[化合物分類] ベンゾピラノイド (Isocoumarin)

[構造式]

[分子式]  $C_{10}H_6O_3$

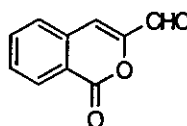
[分子量] 174.156

[正確な分子量] 174.031695

[基原] 次の植物から分離: *tarragon* (*Artemisia dracunculu*)

[性状] 青白い黄色の針状結晶 ( $C_8H_6$ )

[融点] Mp 178-179 °C



-----文献-----

Mallabaev, A. et al., *Khim. Prir. Soedin.*, 1971, 7, 257; *Chem. Nat. Compd. (Engl. Transl.)*, 1971, 7, 248, (分離)

Nadkarni, D.R. et al., *Indian J. Chem., Sect. B*, 1977, 15, 185, (合成法)

Chatterjea, J.N. et al., *Indian J. Chem., Sect. B*, 1981, 20, 359, (合成法)

§ 1-Phenyl-2,4-hexadiyne

[化学名・別名] 2,4-Hexadiynylbenzene (CAS 名). Capillene. Agropyrene. Capilline

[CAS No.] 520-74-1

[化合物分類] 脂肪族化合物 (Miscellaneous acetylene), 単環芳香族 (Miscellaneous aryl derivative), 薬物: 抗菌性剤 (Antibacterial agent)

[構造式]  $PhCH_2C \equiv CC \equiv CCH_3$

[分子式]  $C_{12}H_{10}$

[分子量] 154.211

[正確な分子量] 154.07825

[基原] 次の植物から分離: *Artemisia capillaris* のオイル, *Artemisia dracunculus*, *Artemisia scoparia*, *Agropyron repens* (as Agropyrene, impure Capillene)

[用途] 抗菌性. 種子発芽抑制因子

[性状] オイル

[融点] Fp 0 °C

[沸点] Bp<sub>1</sub> 101-103 °C

[濃度]  $d^{20}_4$  0.977

[屈折率]  $n^{20}_D$  1.581

[Log P 計算値] Log P 3.47 (計算値)

-----文献-----

Harada, R. et al., *Nippon Kagaku Kaishi*, 1957, 78, 415; 1031; *CA*, 54, 347, (構造決定, 合成法)

Bohlmann, F. et al., *Chem. Ber.*, 1962, 95, 39, (分離)

Yano, K. et al., *Phytochemistry*, 1994, 37, 689, (分離)

§ 1-Phenyl-2,4-hexadiyn-1-one (CAS 名)

[化学名・別名] 2,4-Hexadiynophenone (旧 CAS 名). 1-Benzoyl-1,3-pentadiyne. Capillin

[CAS No.] 495-74-9

[化合物分類] 脂肪族化合物 (Miscellaneous acetylene), 単環芳香族 (Simple aryl ketone), 薬物: 抗カビ薬

(Antifungal agent)

[構造式]  $\text{PhCOC} \equiv \text{CC} \equiv \text{CCH}_3$

[分子式]  $\text{C}_{12}\text{H}_8\text{O}$

[分子量] 168.195

[正確な分子量] 168.057515

[基原] 次の植物から得られる精油: *Artemisia capillaris*, *Artemisia dracunculus*, *Chrysanthemum* spp., *Santolina rosmarinifolia*

[用途] 抗カビ作用

[性状] うすいクリーム色の針状結晶 (hexane)

[融点] Mp 82-83 °C

[Log P 計算値] Log P 2.48 (計算値)

[化学物質毒性データ総覧(RTEC)登録番号] MM3622000

-----文献-----

Bohlmann, F. et al., Chem. Ber., 1963, 96, 226; 1964, 97, 1179; 1966, 99, 995, (分離, 生合成)

Nash, B.W. et al., J.C.S., 1965, 2983, (合成法, 成書)

De Pascual, T.J. et al., CA, 1982, 96, 109953, (分離)

Jones, G.E. et al., Tet. Lett., 1982, 23, 3203, (合成法, 成書)

Wu, T.-S. et al., Phytochemistry, 1998, 47, 1645, (Capillaridin E)

\*\*\*RTECS (化学物質毒性データ)\*\*\*

生体影響物質 : 医薬品, 天然物.

\*\*\*健康障害に関するデータ\*\*\*

\*\*\*急性毒性に関するデータ\*\*\*

<<試験方法>> 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-マウス

投与量・期間: 6980 ug/kg

毒性影響 : 致死量以外に毒性影響に関する報告はない.

参照文献

85GDA2 "CRC Handbook of Antibiotic Compounds," Vols.1- , Berdy, J., Boca Raton, FL, CRC Press, 1980- [Vol.,頁,年(19-)]8(2),297,1982

<<試験方法>> LD50 試験 (50%致死量試験).

曝露経路 : 静脈注射

被験動物 : げっ歯類-マウス

投与量・期間: 1 mg/kg

毒性影響 : 致死量以外に毒性影響に関する報告はない.

参照文献

85GDA2 "CRC Handbook of Antibiotic Compounds," Vols.1- , Berdy, J., Boca Raton, FL, CRC Press, 1980- [Vol.,頁,年(19-)]8(2),297,1982

### § 5-Phenyl-1,3-pentadiyne

[化学名・別名] 2,4-Pentadiynylbenzene (CAS 名). Benzyldiacetylene

[CAS No.] 41268-41-1

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

[構造式]  $\text{PhCH}_2\text{C} \equiv \text{CC} \equiv \text{CH}$

[分子式]  $\text{C}_{11}\text{H}_8$

[分子量] 140.184

[正確な分子量] 140.0626

[基原] 次の植物の根から分離: *Artemisia dracunculus*, *Chrysanthemum segetum*

[性状] オイル

[沸点] Bp<sub>0.001</sub> 45-50 °C

[屈折率] n<sub>D</sub><sup>20</sup> 1.5726

-----文献-----

Bohlmann, F. et al., Chem. Ber., 1962, 95, 39; 1963, 96, 226, (分離, UV, IR, 構造決定)

Harada, R. et al., Phytochemistry, 1982, 21, 2009, (分離, IR, UV, NMR)

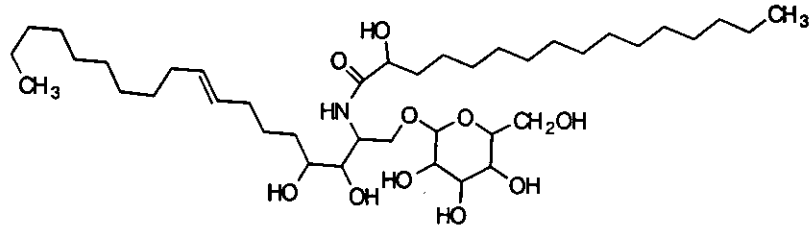
\*\*\*\*\*タラノキ (Tara, Angelica tree) \*\*\*\*\*

§ § ウコギ科タラノキ (*Aralia elata* Seemann) の幼芽または根。

§ 2-Amino-8-octadecene-1,3,4-triol; (2*S*,3*S*,4*R*,8*E*)-form, *N*-(2-Hydroxyhexadecanoyl), 1-*O*-β-D-glucopyranoside

[化学名・別名] Araliacerebroside  
[化合物分類] 脂肪族化合物  
(Sphingolipid)

[構造式]  
[分子式] C<sub>40</sub>H<sub>77</sub>NO<sub>10</sub>  
[分子量] 732.049  
[正確な分子量] 731.554749  
[基原] *Aralia elata* の根皮  
[性状] 無定形の粉末  
[融点] Mp 215-216 °C  
[比旋光度]: [α]<sub>D</sub><sup>20</sup> +14.6 (c, 0.53 in MeOH)

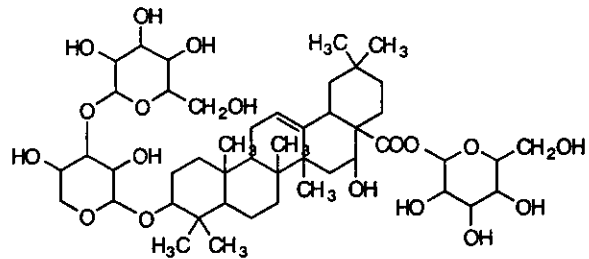


-----文献-----

Carter, H.E. et al., *Biochemistry*, 1963, 2, 389, (分離, 構造決定)  
Kang, S.S. et al., *J. Nat. Prod.*, 1999, 62, 1059, (Araliacerebroside)

§ 3,16-Dihydroxy-12-oleanen-28-oic acid; (3 β,16 α)-form, 3-*O*-[β-D-Glucopyranosyl-(1 → 3)-α-L-arabinopyranoside], 28-*O*-β-D-glucopyranosyl ester

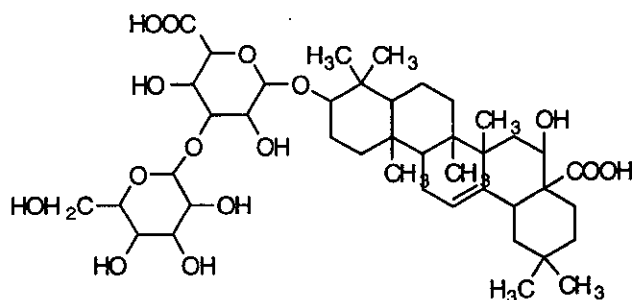
[化学名・別名] Araliasaponin I  
[化合物分類] テルペノイド (Oleanane triterpenoid)  
[構造式]  
[分子式] C<sub>47</sub>H<sub>76</sub>O<sub>18</sub>  
[分子量] 929.107  
[正確な分子量] 928.50317  
[基原] *Aralia elata*  
[性状] 無定形の粉末  
[比旋光度]: [α]<sub>D</sub> -28.9 (c, 0.15 in Py)



-----文献-----

§ 3,16-Dihydroxy-12-oleanen-28-oic acid; (3 β,16 α)-form, 3-*O*-[β-D-Glucopyranosyl-(1 → 3)-β-D-glucuronopyranoside]

[化学名・別名] Elatoside H  
[CAS No.] 171828-78-7  
[化合物分類] テルペノイド (Oleanane triterpenoid)  
[構造式]  
[分子式] C<sub>42</sub>H<sub>66</sub>O<sub>15</sub>  
[分子量] 810.974  
[正確な分子量] 810.440175  
[基原] *Aralia elata*  
[性状] 針状結晶 (MeOH 溶液)  
[融点] Mp 214-217.3 °C  
[比旋光度]: [α]<sub>D</sub><sup>20</sup> -2.4 (c, 0.1 in MeOH)



-----文献-----

Frazier, D. et al., *J.A.C.S.*, 1944, 66, 1267, (構造決定)  
Djerassi, C. et al., *J.A.C.S.*, 1955, 77, 3579; 1957, 79, 3525, (分離, 構造決定)  
Carpani, G. et al., *Phytochemistry*, 1989, 28, 863, (誘導体)

§ 3,16-Dihydroxy-12-oleanen-28-oic acid; (3  $\beta$ ,16  $\alpha$ )-form, 3-O-[ $\beta$ -D-Glucopyranosyl-(1  $\rightarrow$  3)- $\beta$ -D-glucopyranosyl-(1  $\rightarrow$  3)- $\alpha$ -L-arabinopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester

[化学名・別名] Araliasaponin III

[CAS No.] 289649-66-7

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

[構造式]

[分子式]  $C_{53}H_{86}O_{23}$

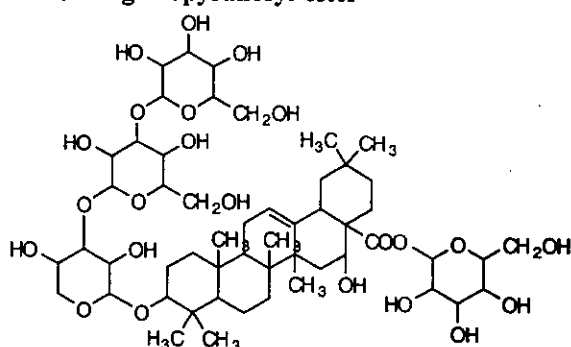
[分子量] 1091.249

[正確な分子量] 1090.555995

[基原] *Aralia elata*

[性状] 無定型の粉末

[比旋光度]:  $[\alpha]_D -13.3$  (c, 0.2 in Py)



-----文献-----

Frazier, D. et al., J.A.C.S., 1944, 66, 1267, (構造決定)

Djerassi, C. et al., J.A.C.S., 1955, 77, 3579; 1957, 79, 3525, (分離, 構造決定)

§ 3,16-Dihydroxy-12-oleanen-28-oic acid; (3  $\beta$ ,16  $\alpha$ )-form, 3-O-[ $\beta$ -D-Glucopyranosyl-(1  $\rightarrow$  3)- $\beta$ -D-glucopyranosyl-(1  $\rightarrow$  3)- $\beta$ -D-glucopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester

3-O-[ $\beta$ -D-Glucopyranosyl-(1  $\rightarrow$  3)- $\beta$ -D-glucuronopyranoside]

[化学名・別名] Araliasaponin IV

[CAS No.] 289649-67-8

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

[構造式]

[分子式]  $C_{54}H_{88}O_{24}$

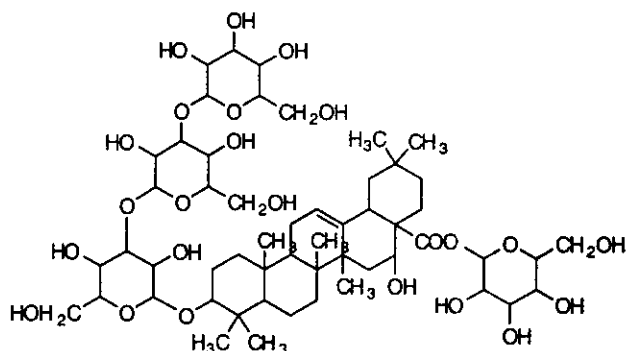
[分子量] 1121.275

[正確な分子量] 1120.56656

[基原] *Aralia elata*

[性状] 無定型の粉末

[比旋光度]:  $[\alpha]_D -18.8$  (c, 0.2 in Py)



-----文献-----

Frazier, D. et al., J.A.C.S., 1944, 66, 1267, (構造決定)

Djerassi, C. et al., J.A.C.S., 1955, 77, 3579; 1957, 79, 3525, (分離, 構造決定)

Yi, Y.H. et al., Yaoxue Xuebao, 1997, 32, 769, (*Aralia dasyphylla* constit)

§ Hederagenin 3-glycoside; Triglycosides, 3-O-[ $\beta$ -D-Glucopyranosyl-(1  $\rightarrow$  2)-[ $\beta$ -D-glucopyranosyl-(1  $\rightarrow$  3)]- $\beta$ -D-glucopyranoside]

[化学名・別名] Congmuyenoside A. Elatoside J

[CAS No.] 171828-79-8

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

[構造式]

[分子式]  $C_{48}H_{74}O_{19}$

[分子量] 959.133

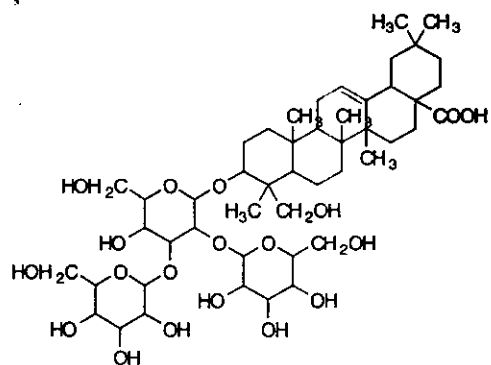
[正確な分子量] 958.513735

[基原] *Aralia elata*

[性状] 結晶 (MeOH 溶液)

[融点] Mp 231-236 °C. Mp 262-264 °C

[比旋光度]:  $[\alpha]_D^{25} +25.7$  (c, 0.1 in  $CHCl_3$  / MeOH 溶液)



-----文献-----

Yoshikawa, M. et al., Chem. Pharm. Bull., 1995, 43, 1878, (Elatoside J)

Kuang, H.-X. et al., Chem. Pharm. Bull., 1996, 44, 2183, (Congmuyenoside)

§ Hederagenin 3-glycoside; Tetraglycosides, 3-O-[ $\beta$ -D-Glucopyranosyl-(1  $\rightarrow$  2)-[ $\beta$ -D-glucopyranosyl-

**(1 → 3)-β-D-glucopyranosyl-(1 → 3)-β-D-glucopyranoside]**

[化学名・別名] Congmuyenoside B

[CAS No.] 184427-82-5

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

[構造式]

[分子式] C<sub>54</sub>H<sub>88</sub>O<sub>24</sub>

[分子量] 1121.275

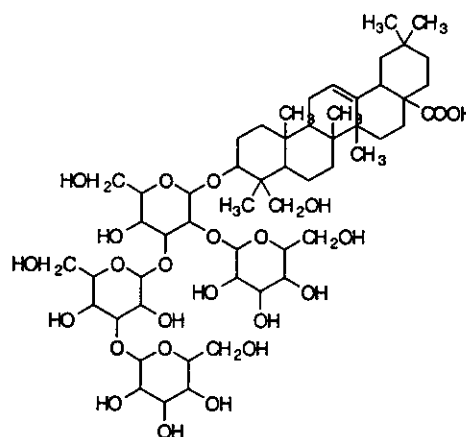
[正確な分子量] 1120.56656

[基原] *Aralia elata*

[性状] 針状結晶 (MeOH)

[融点] Mp 283-284 °C

[比旋光度]: [α]<sub>D</sub> +30 (Py)



-----文献-----

Kuang, H.-X. et al., Chem. Pharm. Bull., 1996, 44, 2183, (Congmuyenoside)

**§ 1-Hexacosene**

[CAS No.] 18835-33-1

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

[構造式] H<sub>3</sub>C(CH<sub>2</sub>)<sub>23</sub>CH=CH<sub>2</sub>

[分子式] C<sub>26</sub>H<sub>52</sub>

[分子量] 364.697

[正確な分子量] 364.4069

[基原] *Acanthopanax giraldii*, *Aralia elata*, *Hippophae rhamnoides*, *Chlorella* sp. を含む種々の藻類

-----文献-----

Dreisbach, R.R., Adv. Chem. Ser., 1959, 22, 1, (性質)

Watanabe, S. et al., Z. Naturforsch., C, 1975, 30, 825, (分離)

Nesterov, G.A. et al., J. Mol. Catal., 1991, 66, 367, (合成法)

**§ Oleanolic acid bisdesmoside; Triglycosides, 3-O-α-L-Arabinopyranoside, 28-O-[β-D-glucopyranosyl-(1 → 6)-β-D-glucopyranosyl] ester**

[CAS No.] 120481-38-1

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

[構造式]

[分子式] C<sub>47</sub>H<sub>76</sub>O<sub>17</sub>

[分子量] 913.107

[正確な分子量] 912.508255

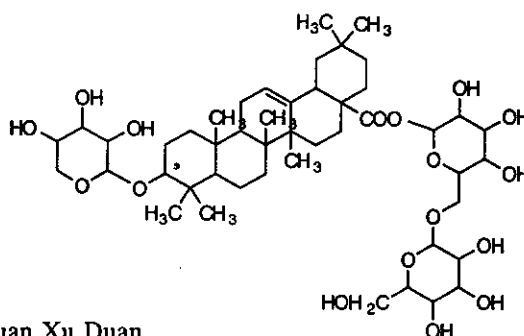
[基原] *Aralia elata*, *Decaisnea fargesii*,

*Lonocera japonica*, *Medicago polymorpha*. Component of Chuan Xu Duan

[性状] 粉末 + 2・1/2 H<sub>2</sub>O

[融点] Mp 227-230 °C

[比旋光度]: [α]<sub>D</sub> +9.7 (c, 0.2 in MeOH)

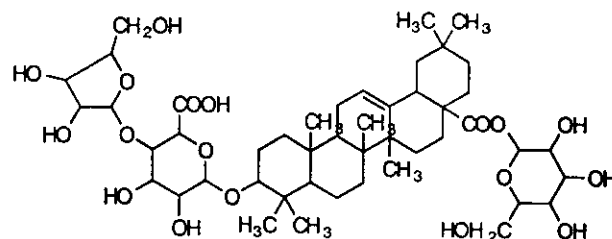


-----文献-----

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

**§ Oleanolic acid bisdesmoside; Triglycosides, 3-O-[α-L-Arabinofuranosyl-(1 → 4)-β-D-glucuronopyranoside], 28-O-β-D-glucopyranosyl ester**

[化学名・別名] Araloside A, Oleanoside E  
 [CAS No.] 7518-22-1  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]  
 [分子式]  $C_{47}H_{74}O_{18}$   
 [分子量] 927.091  
 [正確な分子量] 926.48752  
 [基原] *Aralia elata*, *Aralia mandshurica*  
 [性状] 無定型  
 [化学物質毒性データ総覧 (RTEC) 登録番号] FM3374500



-----文献-----

Kochetkov, N.K. et al., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1963, 1398, (Araloside)  
 Song, S. et al., *Zhongguo Yaowu Huaxue Zazhi*, 1999, 9, 125; *CA*, 132, 134722q, (Araloside S1)  
 Jiang, Y. et al., *CA*, 1992, 116, 231871q, (Araloside G)  
 Yu, S.-S. et al., *J. Nat. Prod.*, 1994, 57, 978, (Araloside J)

\*\*\*RTECS (化学物質毒性データ)\*\*\*

生体影響物質 : 医薬品, 天然物.

\*\*\*健康障害に関するデータ\*\*\*

\*\*\*急性毒性に関するデータ\*\*\*

<<試験方法>> 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-マウス  
 投与量・期間 : 548 mg/kg  
 毒性影響 : [行動] 傾眠 (全身活動度の低下).  
 [行動] 活動度の変化 (特定の試験).  
 [肺, 胸郭, または呼吸] 呼吸抑制.

参照文献

CPBTAL Chemical and Pharmaceutical Bulletin. (Japan Pub. Trading Co., USA, 1255 Howard St., San Francisco, CA 94103) V.6- 1958- [Vol., 頁, 年 (19-)] 25, 1017, 1977

<<試験方法>> LD50 試験 (50%致死量試験).

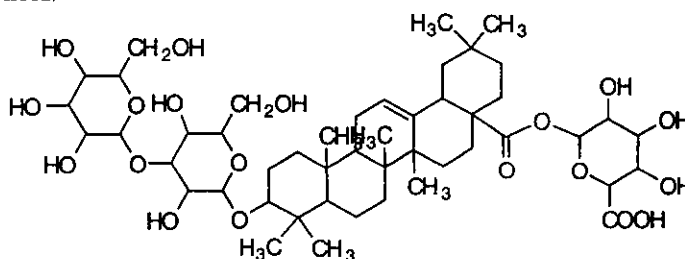
曝露経路 : 静脈注射  
 被験動物 : げっ歯類-マウス  
 投与量・期間 : 343 mg/kg  
 毒性影響 : [行動] 傾眠 (全身活動度の低下).  
 [行動] 活動度の変化 (特定の試験).  
 [肺, 胸郭, または呼吸] 呼吸抑制.

参照文献

CPBTAL Chemical and Pharmaceutical Bulletin. (Japan Pub. Trading Co., USA, 1255 Howard St., San Francisco, CA 94103) V.6- 1958- [Vol., 頁, 年 (19-)] 25, 1017, 1977

§ Oleanolic acid bisdesmoside; Triglycosides, 3-O-[β-D-Galactopyranosyl-(1 → 3)-β-D-glucopyranoside], 28-O-β-D-glucuronopyranosyl ester

[化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]  
 [分子式]  $C_{48}H_{76}O_{19}$   
 [分子量] 957.117  
 [正確な分子量] 956.498085  
 [基原] *Aralia elata*  
 [性状] 粉末 (as Me ester)  
 [比旋光度]:  $[\alpha]_D^{25} +7.1$  (c, 1 in MeOH) (Me ester)



-----文献-----

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



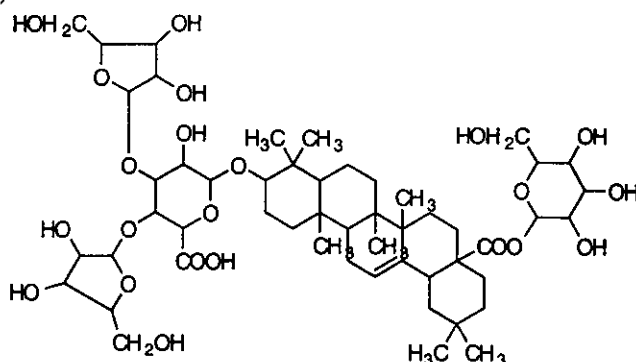
§ **Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[ $\alpha$ -L-Arabinofuranosyl-(1 $\rightarrow$ 3)-O-[ $\alpha$ -L-arabinofuranosyl-(1 $\rightarrow$ 4)]- $\beta$ -D-glucuronopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester**

[化学名・別名] Araloside B. Oleanoside C

[CAS No.] 7518-23-2

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

[構造式]



[分子式]  $C_{52}H_{82}O_{22}$

[分子量] 1059.207

[正確な分子量] 1058.52978

[基原] *Aralia elata*, *Aralia mandshurica*

[性状] 無定型

-----文献-----

Kochetkov, N.K. et al., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1963, 1398, (Araloside)

Song, S. et al., *Zhongguo Yaowu Huaxue Zazhi*, 1999, 9, 125; *CA*, 132, 134722q, (Araloside S1)

Jiang, Y. et al., *CA*, 1992, 116, 231871q, (Araloside G)

Yu, S.-S. et al., *J. Nat. Prod.*, 1994, 57, 978, (Araloside J)

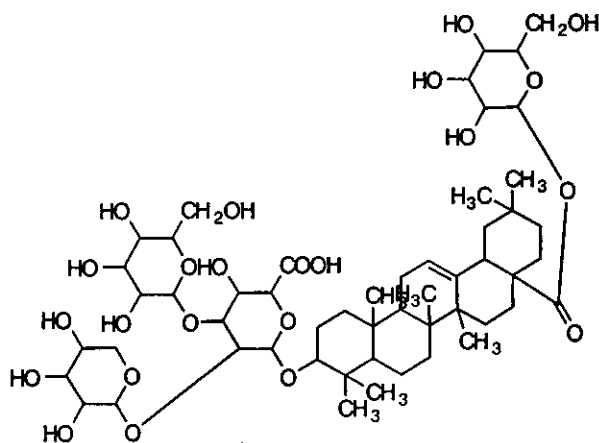
§ **Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[ $\beta$ -D-Xylopyranosyl-(1 $\rightarrow$ 2)-[ $\beta$ -D-galactopyranosyl-(1 $\rightarrow$ 3)]- $\beta$ -D-glucuronopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester**

[化学名・別名] Tarasaponin VI. Elatoside C

[CAS No.] 156856-39-2

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

[構造式]



[分子式]  $C_{53}H_{84}O_{23}$

[分子量] 1089.233

[正確な分子量] 1088.540345

[基原] *Aralia elata*

[性状] 結晶

[融点] Mp 208.5-209.5 °C

[比旋光度]:  $[\alpha]_D -1.6$  (MeOH)

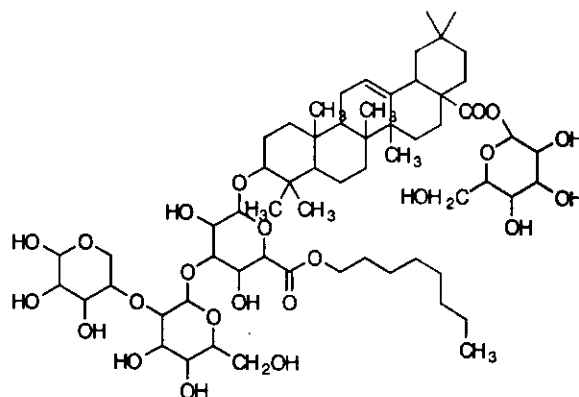
-----文献-----

Yoshikawa, M. et al., *Chem. Pharm. Bull.*, 1993, 41, 2069, (Elatosides C and D)

Satah, Y. et al., *Phytochemistry*, 1994, 36, 147, (Tarasaponins IV - VII, Stipuleanoside R2)

§ **Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[ $\beta$ -D-Xylopyranosyl-(1 $\rightarrow$ 2)- $\beta$ -D-galactopyranosyl-(1 $\rightarrow$ 3)-6-O-octyl- $\beta$ -D-glucuronopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester**

[化学名・別名] Araloside S<sub>1</sub>  
 [CAS No.] 256531-73-4  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]



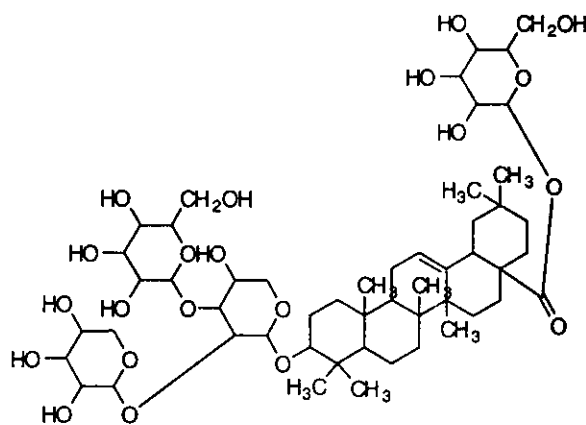
[分子式] C<sub>61</sub>H<sub>100</sub>O<sub>23</sub>  
 [分子量] 1201.447  
 [正確な分子量] 1200.665545  
 [基原] *Aralia elata*

-----文献-----

Kochetkov, N.K. et al., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1963, 1398, (Araloside)  
 Zhongguo Yaowu Huaxue Zazhi, 1999, 9, 125; CA, 132, 134722q, (Araloside S1)  
 Jiang, Y. et al., CA, 1992, 116, 231871q, (Araloside G)  
 Yu, S.-S. et al., *J. Nat. Prod.*, 1994, 57, 978, (Araloside J)

§ Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[β-D-Xylopyranosyl-(1 → 2)-[β-D-glucopyranosyl-(1 → 3)]-α-L-arabinopyranoside], 28-O-β-D-glucopyranosyl ester  
 [化学名・別名] Caraganoside A. Tarasaponin VII.

Elatoside F  
 [CAS No.] 144118-18-3  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]  
 [分子式] C<sub>52</sub>H<sub>84</sub>O<sub>21</sub>  
 [分子量] 1045.223  
 [正確な分子量] 1044.550515  
 [基原] *Caragana sinica*, *Fagonia arabica*, *Aralia elata*  
 [性状] 結晶  
 [融点] Mp 212.5-214 °C. Mp 249-258 °C (分解) (Me ester)  
 [比旋光度]: [α]<sub>D</sub> +24.3 (MeOH). [α]<sub>D</sub> +18.1 (c, 1 in MeOH) (Me ester)

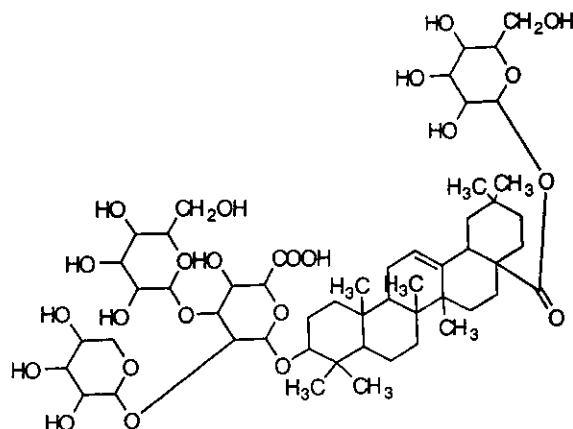


-----文献-----

Lee, Y.B. et al., *Arch. Pharmacol Res.*, 1992, 15, 62, (Caraganoside A)  
 Sakai, S. et al., *Phytochemistry*, 1994, 35, 1319, (Tarasaponin III)  
 Satah, Y. et al., *Phytochemistry*, 1994, 36, 147, (Tarasaponins IV ÷ VII, Stipuleanoside R2)

§ Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[β-D-Xylopyranosyl-(1 → 2)-[β-D-glucopyranosyl-(1 → 3)]-β-D-glucuronopyranoside], 28-O-β-D-glucopyranosyl ester  
 [化学名・別名] Tarasaponin V. Elatoside K

[CAS No.] 91204-06-7  
 [化合物分類] テルペノイド (Oleanane triterpenoid)  
 [構造式]



[分子式] C<sub>53</sub>H<sub>84</sub>O<sub>23</sub>  
 [分子量] 1089.233  
 [正確な分子量] 1088.540345  
 [基原] *Aralia elata*

[性状] 結晶 (MeOH 溶液). 無定型の粉末 (MeOH) (as Me ester)

[融点] Mp 219-222 °C

[比旋光度]:  $[\alpha]_D^{26} +2$  (c, 0.1 in MeOH)

-----文献-----

Kochetkov, N.K. et al., Izv. Akad. Nauk SSSR, Ser. Khim., 1963, 1398, (Araloside)

Song, S. et al., Zhongguo Yaowu Huaxue Zazhi, 1999, 9, 125; CA, 132, 134722q, (Araloside S1)

Jiang, Y. et al., CA, 1992, 116, 231871q, (Araloside G)

Yu, S.-S. et al., J. Nat. Prod., 1994, 57, 978, (Araloside J)

**§ Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[ $\beta$ -D-Galactopyranosyl-(1  $\rightarrow$  3)- $\beta$ -D-xylopyranosyl-(1  $\rightarrow$  4)- $\beta$ -D-glucuronopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester**

[化学名・別名] Araloside C. Oleanoside A

[CAS No.] 55446-15-6

[化合物分類] テルペノイド

(Oleanane triterpenoid)

[構造式]

[分子式]  $C_{53}H_{84}O_{23}$

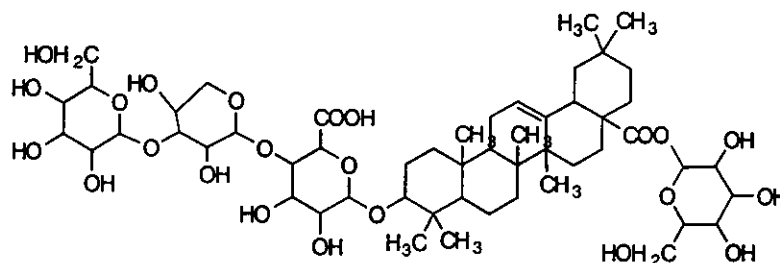
[分子量] 1089.233

[正確な分子量] 1088.540345

[基原] *Aralia elata*, *Aralia*

*mandshurica*

[性状] 無定型



-----文献-----

Kochetkov, N.K. et al., Izv. Akad. Nauk SSSR, Ser. Khim., 1963, 1398, (Araloside)

Song, S. et al., Zhongguo Yaowu Huaxue Zazhi, 1999, 9, 125; CA, 132, 134722q, (Araloside S1)

Jiang, Y. et al., CA, 1992, 116, 231871q, (Araloside G)

Yu, S.-S. et al., J. Nat. Prod., 1994, 57, 978, (Araloside J)

**§ Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[ $\beta$ -D-Galactopyranosyl-(1  $\rightarrow$  2)-[ $\beta$ -D-galactopyranosyl-(1  $\rightarrow$  3)]- $\beta$ -D-glucuronopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester**

[化学名・別名] Elatoside D

[CAS No.] 156856-40-5

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

[構造式]

[分子式]  $C_{54}H_{86}O_{24}$

[分子量] 1119.259

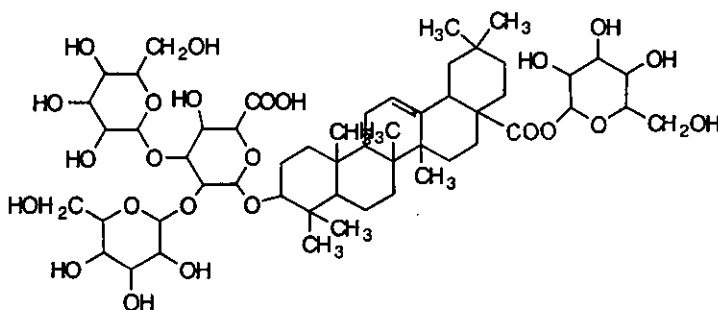
[正確な分子量] 1118.55091

[基原] *Aralia elata*

[性状] 結晶

[融点] Mp 188.5-189.5 °C

[比旋光度]:  $[\alpha]_D +6.9$  (MeOH)



-----文献-----

Yoshikawa, M. et al., Chem. Pharm. Bull., 1993, 41, 2069, (Elatosides C and D)

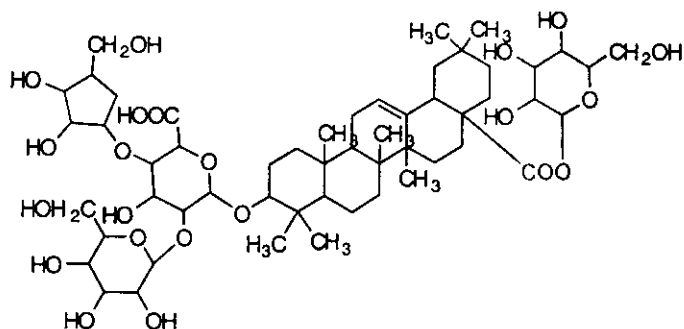
**§ Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[ $\beta$ -D-Glucopyranosyl-(1  $\rightarrow$  2)-[ $\alpha$ -L-arabinofuranosyl-(1  $\rightarrow$  4)]- $\beta$ -D-glucopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester**

[化学名・別名] Tarasaponin IV

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

[構造式]

[分子式]  $C_{53}H_{86}O_{22}$   
[分子量] 1075.249  
[正確な分子量] 1074.56108  
[基原] *Aralia elata*  
[性状] 無定型の粉末 (MeOH) (Me ester)  
[融点] Mp 196-206 °C (分解) (Me ester)  
[比旋光度]:  $[\alpha]_D -22.6$  (c, 1.1 in MeOH)



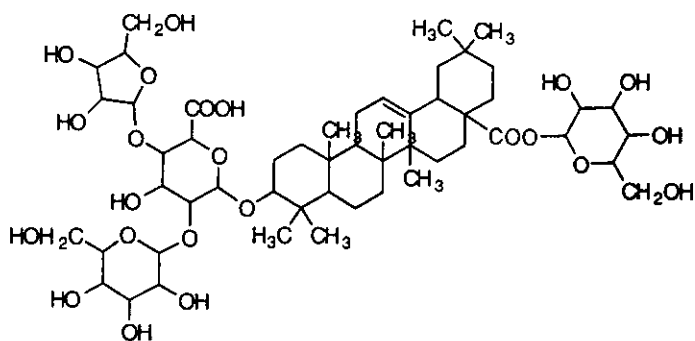
-----文献-----

Sakai, S. et al., *Phytochemistry*, 1994, 35, 1319, (Tarasaponin III)  
Satah, Y. et al., *Phytochemistry*, 1994, 36, 147, (Tarasaponins IV - VII, Stipuleanoside R2)

§ **Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[ $\beta$ -D-Glucopyranosyl-(1  $\rightarrow$  3)]-[ $\alpha$ -L-arabinofuranosyl-(1  $\rightarrow$  4)]- $\beta$ -D-glucuronopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester**

[化学名・別名] Stipuleanoside R:  
[CAS No.] 96627-72-4  
[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式]  
[分子式]  $C_{53}H_{84}O_{23}$   
[分子量] 1089.233  
[正確な分子量] 1088.540345  
[基原] *Aralia elata*  
[性状] 無定型の粉末 (MeOH) (Me ester)  
[融点] Mp 210-215 °C (分解) (Me ester)  
[比旋光度]:  $[\alpha]_D -15.5$  (c, 1.2 in MeOH) (Me ester)



-----文献-----

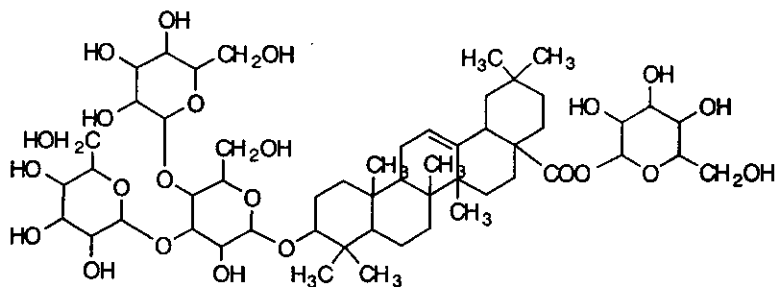
Satah, Y. et al., *Phytochemistry*, 1994, 36, 147, (Tarasaponins IV - VII, Stipuleanoside R2)

§ **Oleanolic acid bisdesmoside; Tetraglycosides, 3-O-[ $\beta$ -D-Glucopyranosyl-(1  $\rightarrow$  3)]-[ $\beta$ -D-glucopyranosyl-(1  $\rightarrow$  4)]- $\beta$ -D-glucopyranoside], 28-O- $\beta$ -D-glucopyranosyl ester**

[化学名・別名] Araloside G  
[CAS No.] 144077-05-4  
[化合物分類] テルペノイド (Oleanane triterpenoid)

[構造式]

[分子式]  $C_{54}H_{88}O_{23}$   
[分子量] 1105.275  
[正確な分子量] 1104.571645  
[基原] *Aralia elata*



-----文献-----

Kochetkov, N.K. et al., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1963, 1398, (Araloside)  
Song, S. et al., *Zhongguo Yaowu Huaxue Zazhi*, 1999, 9, 125; *CA*, 132, 134722q, (Araloside S1)  
Jiang, Y. et al., *CA*, 1992, 116, 231871q, (Araloside G)  
Yu, S.-S. et al., *J. Nat. Prod.*, 1994, 57, 978, (Araloside J)

§ **Oleanolic acid 3-glycoside; Triglycosides, 3-O-[ $\alpha$ -L-Arabinopyranosyl-(1  $\rightarrow$  2)]-[ $\beta$**

**-D-glucopyransoyl-(1 → 3)]-β-D-glucuronopyranoside]**

[化学名・別名] Durupcoside B

[CAS No.] 121521-92-4

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

[構造式]

[分子式] C<sub>47</sub>H<sub>74</sub>O<sub>18</sub>

[分子量] 927.091

[正確な分子量] 926.48752

[基原] *Aralia elata*

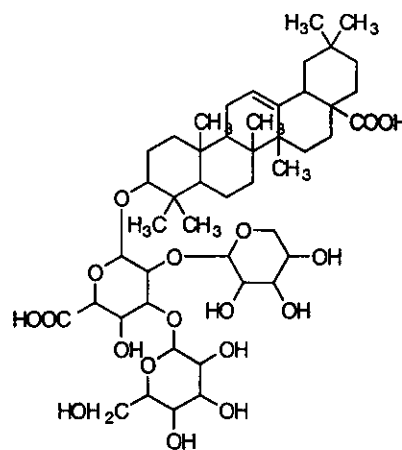
[性状] 結晶 (MeOH) (as di-Me ester)

[融点] Mp 227-230 °C (di-Me ester)

[比旋光度]: [α]<sub>D</sub><sup>22</sup> +8.5 (c, 0.4 in Py) (di-Me ester)

-----文献-----

Kang, S.S. et al., *Int. J. Pharmacogn.*, 1996, 34, 119; *CA*, 125, 110261t, (Durupcosides A and B)



**§ Oleanolic acid 3-glycoside; Triglycosides, 3-O-[β-D-Xylopyranosyl-(1 → 2)-[β-D-galactopyranosyl-(1 → 3)]-β-D-glucuronopyranoside**

[化学名・別名] Tarasaponin II, Elatoside A

[CAS No.] 155836-04-7

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

[構造式]

[分子式] C<sub>47</sub>H<sub>74</sub>O<sub>18</sub>

[分子量] 927.091

[正確な分子量] 926.48752

[基原] *Aralia elata*

[性状] 結晶

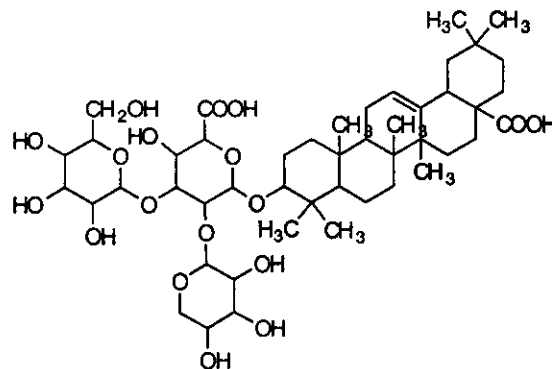
[融点] Mp 198.5-200.5 °C

[比旋光度]: [α]<sub>D</sub> +14.1 (MeOH)

-----文献-----

Sakai, S. et al., *Phytochemistry*, 1994, 35, 1319, (Tarasaponins I and II)

Satoh, Y. et al., *Phytochemistry*, 1994, 36, 147, (Tarasaponin III)



**§ Oleanolic acid 3-glycoside; Triglycosides, 3-O-[β-D-Glucopyranosyl-(1 → 2)-[α-L-arabinofuranosyl-(1 → 4)]-β-D-glucuronopyranoside]**

[化学名・別名] Durupcoside A

[CAS No.] 107656-74-6

[化合物分類] テルペノイド (Oleanane

triterpenoid)

[構造式]

[分子式] C<sub>47</sub>H<sub>74</sub>O<sub>18</sub>

[分子量] 927.091

[正確な分子量] 926.48752

[基原] *Aralia elata*

[性状] 結晶 (MeOH) (as di-Me ester)

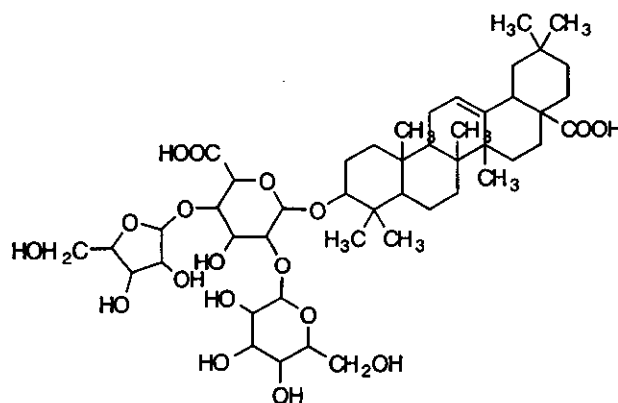
[融点] Mp 225-228 °C (di-Me ester)

[比旋光度]: [α]<sub>D</sub><sup>22</sup> -27.2 (c, 0.3 in Py) (di-Me

ester)

-----文献-----

Kang, S.S. et al., *Int. J. Pharmacogn.*, 1996, 34, 119; *CA*, 125, 110261t, (Durupcosides A and B)



**§ Oleanolic acid 3-glycoside; Triglycosides, 3-O-[β-D-Glucopyranosyl-(1 → 3)]-[α**

**-L-arabinopyranosyl-(1 → 4)-β-D-glucuronopyranoside]**

[化学名・別名] Tarasaponin I. Stipuleanoside R<sub>1</sub>

[CAS No.] 96627-79-1

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

[構造式]

[分子式] C<sub>57</sub>H<sub>74</sub>O<sub>18</sub>

[分子量] 927.091

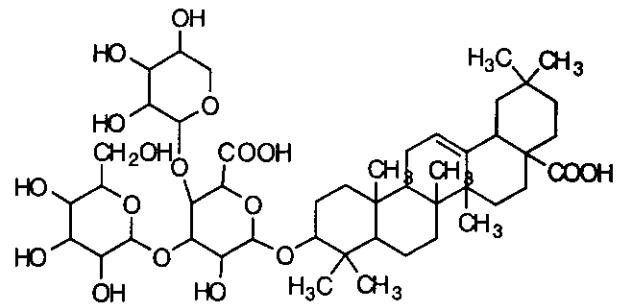
[正確な分子量] 926.48752

[基原] *Aralia elata*, *Aralia armata*

[性状] 針状結晶 (MeOH 溶液) (as di-Me ester)

[融点] Mp 196-202 °C で分解 (di-Me ester)

[比旋光度]: [α]<sub>D</sub> -10.5 (c, 1.03 in MeOH) (di-Me ester)



-----文献-----

Sakai, S. et al., *Phytochemistry*, 1994, 35, 1319, (Tarasaponins I and II)

Satoh, Y. et al., *Phytochemistry*, 1994, 36, 147, (Tarasaponin III)

**§ Oleanolic acid 3-glycoside; Triglycosides, 3-O-[β-D-Glucopyranosyl-(1 → 3)-[β-D-xylopyranosyl-(1 → 2)]-α-L-arabinopyranoside]**

[化学名・別名] Elatoside E. Tarasaponin III

[CAS No.] 156980-30-2

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

[構造式]

[分子式] C<sub>46</sub>H<sub>70</sub>O<sub>16</sub>

[分子量] 883.081

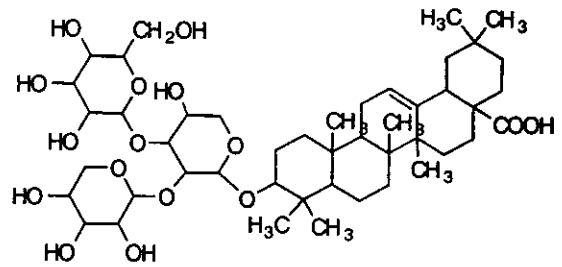
[正確な分子量] 882.49769

[基原] *Aralia elata*, *Fagonia arabica*

[性状] 結晶

[融点] Mp 192.5-194 °C

[比旋光度]: [α]<sub>D</sub> +43.6 (MeOH). [α]<sub>D</sub><sup>25</sup> +21.2 (c, 2.1 in MeOH)



-----文献-----

Yoshikawa, M. et al., *Chem. Pharm. Bull.*, 1993, 41, 2069; 1994, 42, 1354, (Elatoside)

Pancharoen, O. et al., *Phytochemistry*, 1994, 35, 987, (*Schefflera lucantha* saponin)

Sakai, S. et al., *Phytochemistry*, 1994, 35, 1319, (Tarasaponins I and II)

Satoh, Y. et al., *Phytochemistry*, 1994, 36, 147, (Tarasaponin III)

Yoshikawa, M. et al., *Chem. Pharm. Bull.*, 1996, 44, 1915; 1923, (Elatosides A and B)

**§ Oleanolic acid 3-glycoside; Triglycosides, 3-O-[β-D-Glucopyranosyl-(1 → 2)-[β-D-glucopyranosyl-(1 → 3)]-β-D-glucuronopyranoside]**

[化学名・別名] Elatoside I

[CAS No.] 52657-00-8

[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

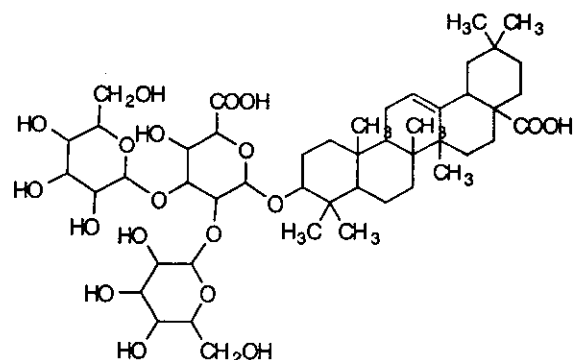
[正確な分子量] 956.498085

[基原] *Aralia elata*

[性状] 結晶 (MeOH 溶液)

[融点] Mp 263-265 °C

[比旋光度]: [α]<sub>D</sub><sup>29</sup> +17.4 (c, 0.1 in MeOH)



-----文献-----

Yoshikawa, M. et al., *Chem. Pharm. Bull.*, 1993, 41, 2069; 1994, 42, 1354, (Elatoside)

Yoshikawa, M. et al., *Chem. Pharm. Bull.*, 1995, 43, 1878, (Elatoside I)

Yoshikawa, M. et al., *Chem. Pharm. Bull.*, 1996, 44, 1915; 1923, (Elatosides A and B)

**§ Oleanolic acid 3-glycoside; Triglycosides, 3-O-[β-D-Galactopyranosyl-(1 → 2)-[β**

**-D-galactopyranosyl-(1 → 3)]-β-D-glucuronopyranoside]**

[化学名・別名] Elatoside B

[CAS No.] 156856-38-1

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

[構造式]

[分子式]  $C_{48}H_{76}O_{19}$

[分子量] 957.117

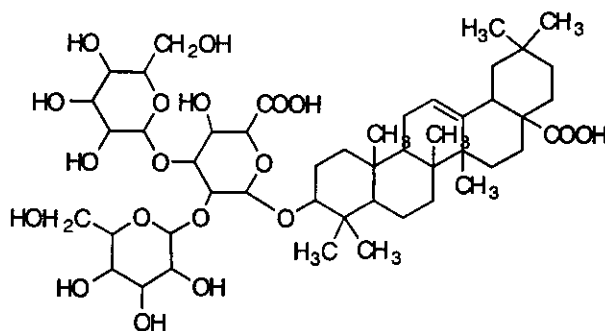
[正確な分子量] 956.498085

[基原] *Aralia elata*

[性状] 結晶

[融点] Mp 186-187 °C

[比旋光度]:  $[\alpha]_D +15.3$  (MeOH)



-----文献-----

Yoshikawa, M. et al., Chem. Pharm. Bull., 1993, 41, 2069; 1994, 42, 1354, (Elatoside)

Yoshikawa, M. et al., Chem. Pharm. Bull., 1995, 43, 1878, (Elatoside I)

Yoshikawa, M. et al., Chem. Pharm. Bull., 1996, 44, 1915; 1923, (Elatosides A and B)

**§ 3,16,23-Trihydroxy-12-oleanen-28-oic acid; (3β,16α)-form, 3-O-β-D-Glucuronopyranoside**

[化学名・別名] Elatoside G

[CAS No.] 171828-77-6

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

[構造式]

[分子式]  $C_{38}H_{56}O_{11}$

[分子量] 664.832

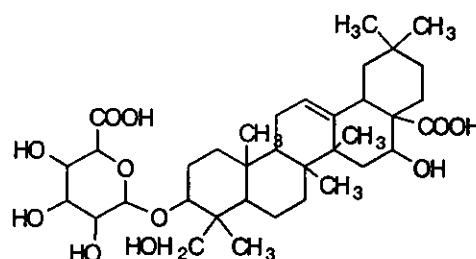
[正確な分子量] 664.382265

[基原] *Aralia elata*

[性状] 結晶 (MeOH 溶液)

[融点] Mp 247-249 °C

[比旋光度]:  $[\alpha]_D^{28} -5.1$  (c, 0.1 in MeOH)



-----文献-----

Yoshikawa, M. et al., Chem. Pharm. Bull., 1995, 43, 1878, (Elatoside G)

**§ 3,16,23-Trihydroxy-12-oleanen-28-oic acid; (3β,16α)-form, 3-O-[β-D-Glucopyranosyl-(1 → 3)-α-L-arabinopyranoside], 28-O-β-D-glucopyranosyl ester**

[化学名・別名] Araliasaponin II

[CAS No.] 289649-65-6

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

[構造式]

[分子式]  $C_{47}H_{76}O_{19}$

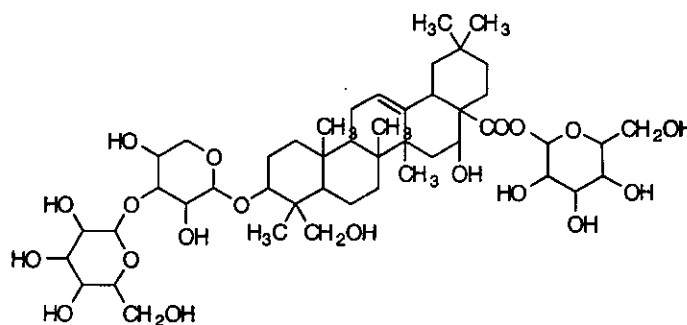
[分子量] 945.106

[正確な分子量] 944.498085

[基原] *Aralia elata*

[性状] 無定形の粉末

[比旋光度]:  $[\alpha]_D -39.4$  (c, 0.22 in Py)



-----文献-----

Song, S.-J. et al., Chem. Pharm. Bull., 2000, 48, 838-842, (Araliasaponin II)

\*\*\*\*\*タンジー (Tansy) \*\*\*\*\*

§ § キク科ヨモギギク (*Tanacetum vulgare* L.) の地上部。

### § Crispolide

[化学名・別名] 1  $\beta$ -Hydroperoxy-5  $\beta$ -hydroxy-4,14-cyclo-9,11-germacradien-12,6  $\alpha$ -olide

[CAS No.] 83217-86-1

[化合物分類] テルペノイド (Cyclogermacrane sesquiterpenoid)

[構造式]

[分子式]  $C_{15}H_{20}O_5$

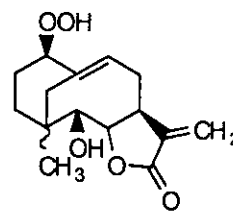
[分子量] 280.32

[正確な分子量] 280.131075

[基原] *Tanacetum vulgare* var. *crispum*

[性状] 無定型の粉末

[比旋光度]:  $[\alpha]_D^{24} -20$  (c, 0.90 in Py)



-----文献-----

Appendino, G. et al., *Phytochemistry*, 1982, 21, 1099

### § 1,3-Dihydroxy-4,11(13)-eudesmadien-12,6-olide; (1 $\beta$ ,3 $\beta$ ,6 $\alpha$ )-form

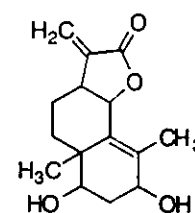
[化学名・別名] Tanacetin

[CAS No.] 293313-26-5

[化合物分類] テルペノイド (12,6-Eudesmanolide sesquiterpenoid)

[構造式]

[基原] *Tanacetum vulgare*



-----文献-----

Romo, J. et al., *Rev. Latinoam. Quim.*, 1972, 3, 122; *CA*, 78, 121339m, (Armexin)

Bohlmann, F. et al., *Phytochemistry*, 1979, 18, 995; 1983, 23, 1665

Mata, R. et al., *Phytochemistry*, 1984, 23, 1665, (Armefolin)

Banerjee, A.K. et al., *Tetrahedron*, 1993, 49, 4761, (合成法, レビュー)

Goumlren, N., *Phytochemistry*, 1995, 38, 1261, (3  $\alpha$ -Peroxyarmefolin)

Todorova, M. et al., *Dokl. Bolg. Akad. Nauk*, 1999, 52, 41-44; *CA*, 133, 235127a, (3-Epiarmefolin)

Suzuki, T. et al., *Heterocycles*, 2001, 54, 865-870, (合成法)

### § 1,5-Dihydroxy-4(15),11(13)-eudesmadien-12,6-olide; (1 $\beta$ ,5 $\alpha$ ,6 $\alpha$ )-form

[化学名・別名] Tanacetin

[CAS No.] 1401-54-3

[化合物分類] テルペノイド (12,6-Eudesmanolide sesquiterpenoid)

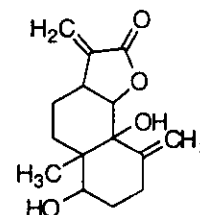
[構造式]

[基原] *Tanacetum vulgare*

[性状] 結晶 (CHCl<sub>3</sub>/Me<sub>2</sub>CO)

[融点] Mp 205-206 °C

[比旋光度]:  $[\alpha]_D^{25} +154$  (c, 0.15 in EtOH)



-----文献-----

Tarasov, V.A. et al., *Khim. Prir. Soedin.*, 1971, 7, 480; 1973, 9, 745; *Chem. Nat. Compd. (Engl. Transl.)*, 1971, 7, 722; 1973, 9, 649, (Arsubin)

Samek, Z. et al., *Coll. Czech. Chem. Comm.*, 1973, 38, 1971, (分離, 構造決定)

Gonzaacutellez, A.G. et al., *Phytochemistry*, 1977, 16, 1836, (Artemin, Arsubin)

Rustaiyan, A. et al., *Phytochemistry*, 1989, 28, 2723, (1-Epiartemin)

Gonzaacutellez, A.G. et al., *J. Nat. Prod.*, 1990, 53, 462, (Isogallicadiol)

Jakupovic, J. et al., *Phytochemistry*, 1991, 30, 1941, (5-Hydroxy-1-oxoeudesmenolide)

Marco, J.A. et al., *Phytochemistry*, 1994, 37, 477, (11,13-Dihydro derivs, H-NMR, C13-NMR)

### § 1,4-Dihydroxy-12,6-eudesmanolide; (1 $\beta$ ,4 $\alpha$ ,6 $\alpha$ ,11 $\beta$ H)-form



[化学名・別名] 1 $\beta$ -Hydroxycolartin

[CAS No.] 66428-35-1

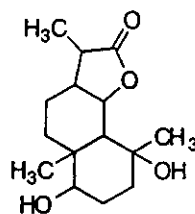
[化合物分類] テルペノイド (12,6-Eudesmanolide sesquiterpenoid)

[構造式]

[基原] *Vladimiria souliei*, *Tanacetum vulgare*

[性状] プリズム結晶 (EtOH)

[融点] Mp 200-201 °C (194-196 °C)



-----文献-----

Samek, E. et al., Coll. Czech. Chem. Comm., 1973, 38, 1971, (分離, H-NMR, IR, Mass, CD)

Sanz, J.F. et al., Phytochemistry, 1990, 29, 541, (分離, H-NMR, C13-NMR, IR, Mas)

Tan, R.X. et al., Phytochemistry, 1990, 29, 1209, (分離, H-NMR)

Mansilla, H. et al., Phytochemistry, 1999, 51, 995, (1 $\alpha$ -Hydroxycolartin)

§ 1,4-Dihydroxy-11(13)-eudesmen-12,6-olide; (1 $\alpha$ ,4 $\beta$  OH,6 $\alpha$ )-form

[化学名・別名] 1 $\alpha$ -Hydroxyarbusculin A

[CAS No.] 50301-94-5

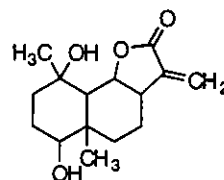
[化合物分類] テルペノイド (12,6-Eudesmanolide sesquiterpenoid)

[構造式]

[基原] 次の植物から分離: *Tanacetum vulgare*

[性状] 結晶

[融点] Mp 194-196 °C



-----文献-----

Samek, Z. et al., Coll. Czech. Chem. Comm., 1973, 38, 1971, (Hydroxyarbusculin A)

§ 1,6-Dihydroxy-4,9,11(13)-germacatrien-12,8-olide; (1 $\alpha$ ,4E,6 $\alpha$ ,8 $\alpha$ ,9E)-form

[化学名・別名] Tavulin, Tabulin

[CAS No.] 71030-09-6

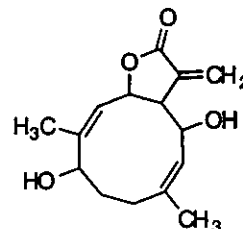
[化合物分類] テルペノイド (12,8-Germacranolide and furanogermacrane sesquiterpenoid)

[構造式]

[基原] *Tanacetum vulgare*

[性状] 結晶

[融点] Mp 160-161 °C



-----文献-----

Yunusov, A.I. et al., Khim. Prir. Soedin., 1979, 15, 101; Chem. Nat. Compd. (Engl. Transl.), 1979, 15, 88, (Tavulin)

Doskotch, R.W. et al., J.O.C., 1980, 45, 1441, (Tulirinol)

§ 1,6-Dihydroxy-4,10(14),11(13)-germacatrien-12,8-olide; (1 $\beta$ ,4E,6 $\alpha$ ,8 $\alpha$ )-form

[化学名・別名] Tatrudin B, 1 $\beta$ -Hydroxy-1-desoxotamirin

[CAS No.] 41653-76-3

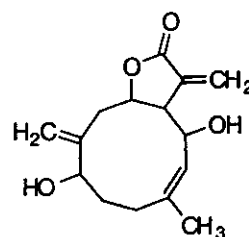
[化合物分類] テルペノイド (12,8-Germacranolide and furanogermacrane sesquiterpenoid)

[構造式]

[基原] 次の植物から分離: *Tanacetum polycephalum*, *Tanacetum vulgare*, *Artemisia tridentata*

[性状] ガム

[比旋光度]:  $[\alpha]_D^{25} +38$  (c, 0.2 in CHCl<sub>3</sub>)



-----文献-----

Appendino, G. et al., Gazz. Chim. Ital., 1986, 116, 57, (結晶構造, Tatrudin B)

§ 5,7-Dihydroxy-4'-methoxyflavone; 7-O-[ $\beta$ -D-Glucopyranosyl-(1 $\rightarrow$ ?)]- $\beta$ -D-glucopyranoside]

[化学名・別名] Acacetin 7-diglucoside

[CAS No.] 31514-20-2

[化合物分類] フラボノイド (Flavonoid 構造は一部又は全てが未知), フラボノイド (Flavone; 3 × O-置換基)

[構造式] 有効な構造式はない

[分子式] C<sub>28</sub>H<sub>32</sub>O<sub>15</sub>

[分子量] 608.552

[正確な分子量] 608.174125

[基原] 次の植物から分離: *Tanacetum vulgare*

-----文献-----

Freudenberg, K. et al., *Annalen*, 1954, 587, 207, (Acacetin trioside)

Shibata, S. et al., *Yakugaku Zasshi*, 1960, 80, 620; *CA*, 54, 21488, (薬理)

Khadzhai, Y. et al., *Farmakol. Toksikol. (Moscow)*, 1969, 32, 451, (薬理)

Okigawa, M. et al., *Chem. Pharm. Bull.*, 1971, 19, 148, (7-diglucuronide)

Shelyuto, V.L. et al., *Khim. Prir. Soedin.*, 1972, 240, (7-O-glucuronide)

### § 5,7-Dihydroxy-3',4',6-trimethoxyflavone

[化学名・別名] 2-(3,4-Dimethoxyphenyl)-5,7-dihydroxy-6-methoxy-4H-1-benzopyran-4-one (CAS 名).

Eupatilin

[CAS No.] 22368-21-4

[化合物分類] フラボノイド (Flavone; 5 × O-置換基)

[構造式]

[分子式] C<sub>18</sub>H<sub>16</sub>O<sub>7</sub>

[分子量] 344.32

[正確な分子量] 344.089605

[基原] 次の植物から分離: *Eupatorium semiserratum*, *Tanacetum vulgare*,

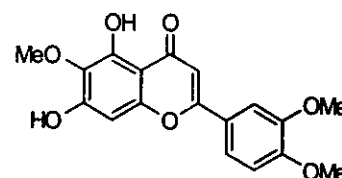
*Liatris punctata*

[性状] 結晶 (EtOAc)

[融点] Mp 241-242 °C (234-236 °C)

[UV]: [neutral] λ<sub>max</sub> 243 (ε 20500); 277 (ε 17000); 340 (ε 26300) (EtOH)

[傷害・毒性] 細胞毒



-----文献-----

Kupchan, S.M. et al., *Tetrahedron*, 1969, 25, 1603, (分離, 構造決定)

Midge, M.D. et al., *Indian J. Chem.*, 1975, 13, 541, (合成法)

Gupta, S.R. et al., *Indian J. Chem., Sect. B*, 1979, 17, 37, (合成法)

Horie, T. et al., *Yakugaku Zasshi*, 1985, 105, 232, (合成法)

### § 1(10),4(15)-Germacradiene-2,5,11-triol; (1(10)E,2 β,5 β)-form, 1-Ac

[化学名・別名] Tanacetol B

[CAS No.] 86787-28-2

[化合物分類] テルペノイド (Simple germacrane sesquiterpenoid)

[構造式]

[分子式] C<sub>17</sub>H<sub>28</sub>O<sub>4</sub>

[分子量] 296.406

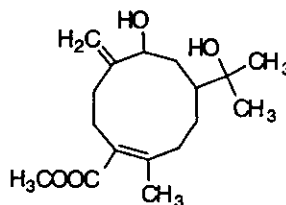
[正確な分子量] 296.19876

[基原] *Tanacetum vulgare*

[性状] 結晶 (Et<sub>2</sub>O)

[融点] Mp 163 °C

[比旋光度]: [α]<sub>D</sub><sup>25</sup> -65.4 (c, 1.5 in MeOH)



-----文献-----

Appendino, G. et al., *Phytochemistry*, 1983, 22, 509

### § 1(10),4(15)-Germacradiene-2,5,11-triol; (1(10)E,2 β,5 β)-form, 5-Ketone, 2-Ac

[化学名・別名] 2-Acetoxy-11-hydroxy-1(10),4(15)-germacradien-5-one. Tanacetol A

[CAS No.] 86778-06-5

[化合物分類] テルペノイド (Simple germacrane sesquiterpenoid)

[構造式]

[分子式]  $C_{17}H_{26}O_4$

[分子量] 294.39

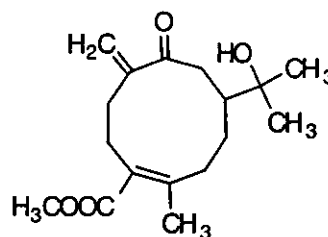
[正確な分子量] 294.18311

[基原] *Tanacetum vulgare*

[性状] 結晶 (EtOAc/ $C_6H_6$ )

[融点] Mp 98 °C

[比旋光度]:  $[\alpha]_D^{25} -99$  (c, 1 in  $CHCl_3$ )



-----文献-----

Appendino, G. et al., *Phytochemistry*, 1983, 22, 509

### § 2-(2,4-Hexadiynylidene)-1,6-dioxaspiro[4.5]dec-3-ene; (E)-form

[CAS No.] 3306-40-9

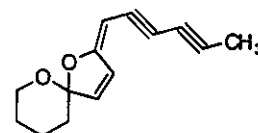
[化合物分類] 脂肪族化合物 (Miscellaneous acetylene), 含酸素複素環式化合物 (Spiroketal)

[構造式]

[基原] *Chrysanthemum* spp., *Artemisia princeps*, また *Tanacetum vulgare* の根

[融点] Mp 83 °C

[比旋光度]:  $[\alpha]_D^{20} H g 546 +29$  (c, 2.0 in Et<sub>2</sub>O)



-----文献-----

Bohlmann, F. et al., *Chem. Ber.*, 1960, 93, 1937; 1961, 94, 3193; 1963, 96, 226; 1964, 97, 1179; 1966, 99, 990; 1830; 2416

Yano, K. et al., *Phytochemistry*, 1972, 11, 2577

### § 1-Hydroxy-3-oxo-4,11(13)-eudesmadien-12,6-olide; (1β,6α)-form

[化学名・別名] Armexifolin. 1-Epiludovicin C

[CAS No.] 64929-15-3

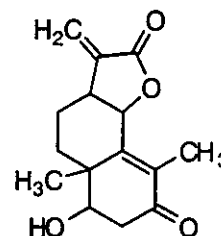
[化合物分類] テルペノイド (12,6-Eudesmanolide sesquiterpenoid)

[構造式]

[基原] 次の植物から分離: *Tanacetum vulgare*, *Artemisia mexicana*

[性状] 結晶

[融点] Mp 201-203 °C



-----文献-----

Lee, K.H. et al., *Phytochemistry*, 1970, 9, 403, (分離)

Ognyanov, I. et al., *Planta Med.*, 1983, 48, 181, (分離)

Mata, R. et al., *Phytochemistry*, 1984, 23, 1665, (分離)

Banerjee, A.K. et al., *Tetrahedron*, 1993, 49, 4761, (合成法, レビュー)

Suzuki, T. et al., *Heterocycles*, 2001, 54, 865, (合成法)

### § 4,10-Longipinanedione

[化学名・別名] 2,4-Longipinanedione

[CAS No.] 88198-34-9

[化合物分類] テルペノイド (Longipinane sesquiterpenoid)

[構造式]

[分子式]  $C_{15}H_{22}O_2$

[分子量] 234.338

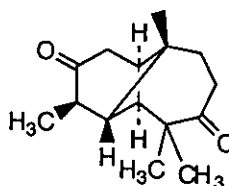
[正確な分子量] 234.16198

[基原] *Tanacetum vulgare* の花

[性状] 結晶 (Et<sub>2</sub>O/petrol)

[融点] Mp 113.5-114.5 °C

[UV]: [neutral]  $\lambda_{max}$  212 (); 290 () (溶媒の報告はない)



Absolute Configuration

-----文献-----

Todorova, I.O.M. et al., *Phytochemistry*, 1983, 22, 1775, (分離, UV, IR, H-NMR, C13-NMR, CD, 結晶構造)

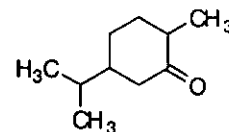
§ *p*-Menth-2-one; (1*S*,4)-form

[化学名・別名] (-)-Carvomenthone

[CAS No.] 13163-73-0

[化合物分類] テルペノイド (p-Menthane monoterpene)

[構造式]



[基原] 次の植物から分離: *Blumea malcomii* のオイル, *Blumea eriantha*, *Mentha arvensis*, *Tanacetum vulgare*

[性状] オイル

[沸点] Bp 220 °C

[比旋光度]:  $[\alpha]_D^{20}$  -27.95 (MeOH)

-----文献-----

Simonson, J.L. et al., *J.C.S.*, 1922, 876, (分離)

Willhalm, B. et al., *J.C.S.*, 1965, 6478, (Mas)

Fringuelli, F. et al., *J.C.S. (C)*, 1971, 297, (合成法)

§ *p*-Menth-1-en-6-one; (*R*)-form

[CAS No.] 33375-08-5

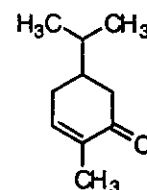
[化合物分類] テルペノイド (p-Menthane monoterpene)

[構造式]

[基原] *Piper nigrum*. また *Tanacetum vulgare*, *Eucalyptus deglupta*, *Cymbopogon nardus* から得られる

[性状] オイル

[沸点] Bp 227-229 °C



-----文献-----

Simonsen, J.L. et al., *J.C.S.*, 1922, 876, (分離, 構造決定)

Sutherland, M.D. et al., *Aust. J. Chem.*, 1960, 13, 357, (分離)

Noma, Y. et al., *Agric. Biol. Chem.*, 1974, 38, 1637, (合成法)

Debraumere, J. et al., *Bull. Soc. Chim. Belg.*, 1975, 84, 167, (分離, 構造決定)

§ 3-[5-(1-Propynyl)-2-thienyl]-2-propenoic acid; (*Z*)-form, Me ester

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

[構造式]

[分子式] C<sub>11</sub>H<sub>10</sub>O<sub>2</sub>S

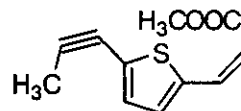
[分子量] 206.265

[正確な分子量] 206.04015

[基原] 次の植物から分離: *Tanacetum vulgare*, *Chrysanthemum vulgare*, その他のキク科の属

[性状] プリズム結晶 (hexane)

[融点] Mp 101 °C



-----文献-----

Guddal, E. et al., *Acta Chem. Scand.*, 1959, 13, 1185, (分離, 構造決定)

Bohlmann, F. et al., *Chem. Ber.*, 1960, 93, 1937; 1965, 98, 1616, (分離, UV)

Schulte, K.E. et al., *Tet. Lett.*, 1965, 659, (生合成)

§ Tanavulgarol

[CAS No.] 112663-82-8

[化合物分類] テルペノイド (Miscellaneous bicyclic sesquiterpene)

[構造式]

[分子式] C<sub>15</sub>H<sub>24</sub>O<sub>2</sub>

[分子量] 236.353

[正確な分子量] 236.17763

[基原] *Tanacetum vulgare*

[性状] オイル

