

# THE MERCK INDEX

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THIRTEENTH EDITION

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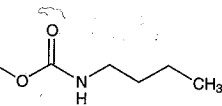
er, alcohol, ether. LD<sub>50</sub> i.p. in female  
crystals from ethanol-water, mp 197-

ingestion of *C. ruscifolia* has been  
presence of tutin. Symptoms include  
irium, convulsions.

14-5] Tricyclo[4.4.0.0<sup>3,8</sup>]decane.  
C 88.16%, H 11.84%. Synthesis:  
oc. **84**, 3412 (1962); Gautier, Des-  
**45**, 297 (1967); Whitlock, Siefken,  
9 (1968). Absolute configuration:  
**Letters 1968**, 5467.

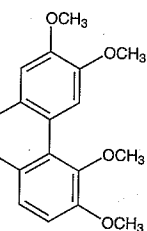


268-36-4] Butylcarbamic acid  
[methyl]-2-methylpentyl ester; carba-  
[methyl]-2-methylpentyl ester of butylcar-  
[methyl]-2-propyl-1,3-propanediol dicar-  
[methyl]ethylene butylcarbamate carba-  
[methyl]tratan. C<sub>13</sub>H<sub>26</sub>N<sub>2</sub>O<sub>4</sub>; mol wt 274.36.  
%, O 23.33%. Prep'd from 2-meth-  
[methyl]carbamate + butyl isocyanate:  
9 (1960 to Carter Prod.). Compre-  
[methyl]sberg et al., *Anal. Profles Drug*



roethane + hexane (1:2), mp 49-

[6879-02-3] 9,11,12,13,13a,14-  
thoxydibenzo[*f,h*]pyrrolo[1,2-*b*]-  
thoxyphenanthro[9,10:6',7']indol-  
393.47. C 73.26%, H 6.92%, N  
indolizidine alkaloid; isomeric  
of *l*-isomer from *Tylophora cre-*  
*daceae*: E. Gellert et al., *J. Chem.*  
et al., *J. Pharm. Sci.* **59**, 1501  
: E. Gellert, R. Rudzats, *J. Med.*  
mer isolated from *Ficus septica*,  
*dl*-form and structure: E. Gellert  
Gellert, *Austr. J. Chem.* **23**, 2503  
is: G. R. Donaldson et al., *Biochem.*  
**104** (1968); E. Battaner, D. Vas-  
**254**, 316 (1971). Mode of action  
grollman, *Mol. Pharmacol.* **8**, 538  
*Antibiotics (N.Y.)* **6**, 47 (1983).

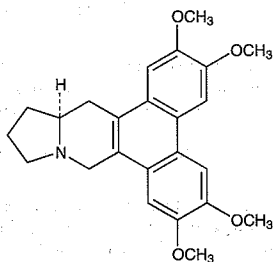


*dl*-Form. Needles from chloroform + methanol, mp 219-221°.

*l*-Form. Crystals from methanol, dec 218-220°. uv max: 263, 342, 360 nm (log ε 4.81, 3.25, 3.09). [α]<sub>D</sub><sup>25</sup> -45° (c = 0.74 in chloroform). pKa (50% aq ethanol): 6.7.

*d*-Form. Crystals from methanol, mp 220-222°. [α]<sub>D</sub><sup>22</sup> +20.5°.

**9899. Tylophorine.** [482-20-2] (13aS)-9,11,12,13,13a,14-Hexahydro-2,3,6,7-tetramethoxydibenzo[*f,h*]pyrrolo[1,2-*b*]isoquinoline; 2,3,6,7-tetramethoxyphenanthro[9,10:6',7']indolizidine. C<sub>24</sub>H<sub>27</sub>NO<sub>4</sub>; mol wt 393.47. C 73.26%, H 6.92%, N 3.56%, O 16.26%. Major alkaloid from *Tylophora asthmatica* Wight et Arn., *Asclepiadaceae*. Also found in other *Asclepiadaceae*, *Moraceae*, *Urticaceae* and *Lauraceae*. Naturally occurring form originally isolated and reported to be levorotatory; later corrected to dextrorotatory. Isoln: A. N. Ratnagiriswaran, K. Venkatachalam, *Indian J. Med. Res.* **22**, 433 (1935); R. N. Chopra et al., *Arch. Pharm.* **275**, 236 (1937); T. R. Govindachari et al., *J. Chem. Soc.* **1954**, 2801. Structure: *eidem*, *Tetrahedron* **9**, 53 (1960). Absolute configuration: *eidem*, *J. Chem. Soc. Perkin Trans. I* **1974**, 1161. Synthesis of the *dl*-form: *eidem*, *Chem. & Ind. (London)* **1960**, 664; N. A. Khatri et al., *J. Am. Chem. Soc.* **103**, 6387 (1981). Synthesis and verification of dextrorotation of naturally occurring form: T. F. Buckley 3rd, H. Rapoport, *J. Org. Chem.* **48**, 4222 (1983); J. E. Nordlander, F. G. Njoroge, *ibid.* **52**, 1627 (1987). Stereoselective synthesis of *l*-form: M. Ihara et al., *Tetrahedron Letters* **29**, 4135 (1988). Biosynthesis: Mulchandani et al., *Phytochemistry* **8**, 1931 (1969); *ibid.* **10**, 1047 (1971); D. S. Bhakuni, V. K. Mangla, *Tetrahedron* **37**, 401 (1981). Pharmacology: C. Gopalakrishnan et al., *Indian J. Med. Res.* **69**, 513 (1979); **71**, 940 (1980).



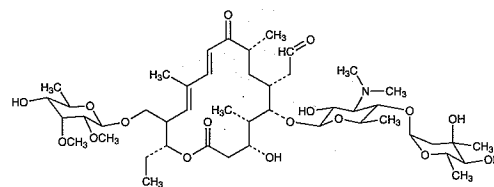
Crystals, dec 282-284°. [α]<sub>D</sub><sup>23</sup> +15° (c = 0.7 in chloroform); [α]<sub>D</sub><sup>25</sup> +73° (c = 0.7 in chloroform). uv max in ethanol: 257, 286, 339, 356 nm (log ε 4.7, 4.42, 3.28, 3.19). Unstable in solutions, decomposition with yellowing sets in promptly accompanied by decreasing rotatory strength.

*l*-Form. Colorless crystals, dec 286-287°. [α]<sub>D</sub><sup>27</sup> -11.6° (c = 1.07 in chloroform). uv max 255, 290, 340, 352 nm (log ε 4.74, 4.49, 3.30, 2.93). Sol in chloroform; slightly sol in abs alc, ether, cold benzene. Practically insol in water.

*dl*-Form. Crystals from chloroform + ethanol, mp 292°.

**9900. Tylosin.** [1401-69-0] Tylan. C<sub>46</sub>H<sub>77</sub>NO<sub>17</sub>; mol wt 916.10. C 60.31%, H 8.47%, N 1.53%, O 29.69%. Macrolide antibiotic isolated from a strain of *Streptomyces fradiae* found in soil from Thailand: Hamill et al., *Antibiot. & Chemother.* **11**, 328 (1961); *eidem*, **US 3178341** (1965 to Lilly). Prodn in batch and chemostat cultures: P. P. Gray, S. Bhuwathanapun, *Bio-tech. Bioeng.* **22**, 1785 (1980). Partial structure: Morin, Gorman, *Tetrahedron Letters* **1964**, 2339. Structure: Morin et al., *ibid.* **1970**, 4737; Achenbach et al., *Ber.* **108**, 2481 (1975). Configurational study: S. Omura et al., *Tetrahedron Letters* **1977**, 1045. Abs config: *eidem*, *J. Antibiot.* **33**, 915 (1980); N. D. Jones et al., *ibid.* **35**, 420 (1982). Synthesis of *tylonolide*, the aglycone: S. Masamune et al., *J. Am. Chem. Soc.* **98**, 7874 (1976); K. Tatsuta et al., *Tetrahedron Letters* **22**, 3997 (1981). Relationship of ribosomal binding and antibacterial properties: J. W. Corcoran et al., *J. Antibiot.* **30**, 1012 (1977). Biosynthesis

studies: E. T. Seno et al., *Antimicrob. Ag. Chemother.* **11**, 455 (1977); S. Omura et al., *J. Antibiot.* **31**, 254 (1978).

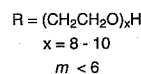
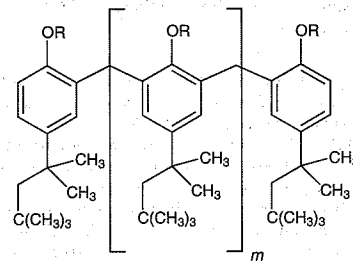


Crystals from water, mp 128-132°. [α]<sub>D</sub><sup>25</sup> -46° (c = 2 in methanol). uv max: 282 nm (E<sub>1cm</sub><sup>1%</sup> 245). Soly in water at 25°: 5 mg/ml. Sol in lower alcohols, esters and ketones, in chlorinated hydrocarbons, benzene, ether. Solns are stable at pH 4-9; at pH <4 another active compd, *desmycosin* is formed.

**Hydrochloride.** C<sub>46</sub>H<sub>77</sub>NO<sub>17</sub>·HCl. Crystals from ethanol + ether, mp 141-145°.

THERAP CAT (VET): Antibacterial.

**9901. Tyloxapol.** [25301-02-4] 4-(1,1,3,3-Tetramethylbutyl)phenol polymer with formaldehyde and oxirane; oxyethylated tertiary octylphenol formaldehyde polymer; *p*-isooctyl-polyoxyethylenephenol formaldehyde polymer; tyloxopal; Al-evaire; Superinone; Triton A-20; Triton WR-1339. Nonionic detergent with surface-tension-reducing properties. Prepn: Bock, Rainey, **US 2454541** (1948 to Rohm & Haas); J. W. Cornforth et al., *Nature* **168**, 150 (1951). Use to induce exptl hyperlipidemia: A. Kellner et al., *J. Exp. Med.* **93**, 373 (1951); P. E. Schurr et al., *Lipids* **7**, 68 (1972). Use as ophthalmic excipient: D. E. Guttman et al., *J. Pharm. Sci.* **50**, 305 (1961). Phase behavior of mixtures with water: K. Westesen, *Int. J. Pharm.* **102**, 91 (1994); K. Westesen, M. H. J. Koch, *ibid.* **103**, 225 (1994). Tissue distribution and excretion: R. L. DeAngelis et al., *Xenobiotica* **25**, 521 (1995).



d<sup>20</sup> 1.0963. Cloud point: 92-97°. Slowly but freely misc with water. Sol in benzene, toluene, chloroform, carbon tetrachloride, carbon disulfide, acetic acid. Alkaline pH. Oxidized by metals.

**Combination with colfosceril palmitate and hexadecanol, see Exosurf<sup>®</sup>**

USE: Pharmaceutic aid (dispersing agent; excipient). To induce exptl hyperlipidemia in animal models.

THERAP CAT: Mucolytic.

**9902. Tymazoline.** [24243-97-8] 4,5-Dihydro-2-[[5-methyl-2-(1-methylethyl)phenoxy]methyl]-1*H*-imidazole; 2-[[thymyloxy]methyl]-2-imidazoline; 2-(thymyloxymethyl)glyoxalidine; 2-[[*p*-mentha-1,3,5-trien-2-yloxy]methyl]-2-imidazoline. C<sub>14</sub>H<sub>20</sub>N<sub>2</sub>O; mol wt 232.32. C 72.38%, H 8.68%, N 12.06%, O 6.89%. Prep'd from an alkyl thymyloxyacetimidate and ethylenediamine: Sonn, **US 2149473** (1939 to Ciba); Djerassi,

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