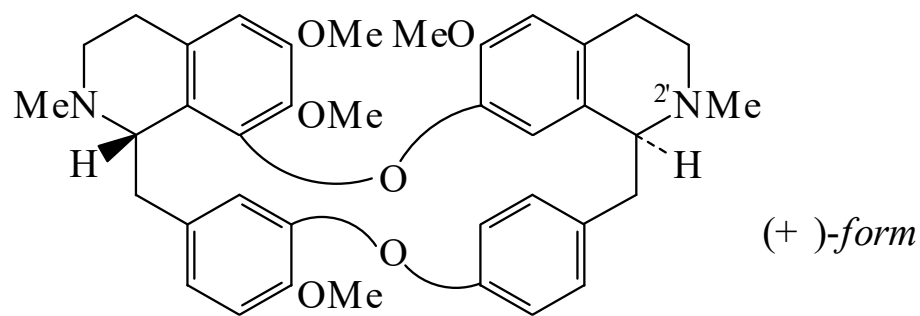




>>Entry Name: Tetrandrine

Synonym(s): 6,6',7,12-Tetramethoxy-2,2'-dimethylberbaman, 9Cl. NSC 77037



Molecular Formula: C₃₈H₄₂N₂O₆

Molecular Weight: 622.76

Accurate Mass: 622.304288

Percentage Composition: C 73.29%; H 6.80%; N 4.50%; O 15.41%

Use/Importance: Shows hypotensive and vasodilator props., gives exp. protection against myocardial infarction. Shows antineoplastic activity. Cytotoxic to KB cells, shows activity against Walker 256 carcinosarcoma and Ehrlich ascites *in vivo*. Most effective antineoplastic agent of the bisbenzylisoquinoline alkaloids. Shows antiinflammatory, antidiabetic and anaesthetic props. also possesses antiarrhythmic, antimicrobial and antimitotic props. Calcium channel antagonist

Development Status: Limited clin. trial proved ineffective

Other Data: Both enantiomers and racemate reported to have antineoplastic activity

>>Variant: (+)-form

CAS Registry Number: 518-34-3

Molecular Formula: C₃₈H₄₂N₂O₆

Molecular Weight: 622.76

Accurate Mass: 622.304288

Percentage Composition: C 73.29%; H 6.80%; N 4.50%; O 15.41%

Biological Source: Alkaloid from the roots of *Cocculus sarmentosus*, *Cyclea barbata*, *Cyclea peltata*, *Cyclea burmanni*, *Stephania hernandifolia*, *Triclisia subcordata* and *Isopyrum thalictroides*, and from the tubers of *Stephania tetrandra* (Menispermaceae)

Physical Description: Needles (Et₂O)

Melting Point: Mp 218° (215-217°)

Optical Rotation: [α]_D²¹+241.38 (c, 0.87 in CHCl₃). [α]_D²⁴+274 (c, 2.16 in CHCl₃)

Calculated Log P Data: Log P 8.3 (uncertain value) (calc)

Other Data: More pharmacol. active isomer

Hazard & Toxicity: LD₅₀ (mus, ipr) 41.3 mg/kg. Chronic administration causes liver necrosis. Lymphotoxin

Aldrich: 36562-9

Fluka: 87962

>>Derivative: Isomorph

Synonym(s): Menisine

Biological Source: Isol. from the Chinese drug ``Mu-fang-chi" (*Stephania tetrandra*) (Menispermaceae)

Melting Point: Mp 152°

Optical Rotation: [α]_D²⁰+290

Other Data: Transformed into Tetrandrine on heating at 150° for 3h, and is almost certainly a metastable modification of it

>>Derivative: N²-Oxide (β-)

Synonym(s): Fenfangjine A. Tetrandrine 2β-N-oxide

CAS Registry Number: 115556-32-6

Molecular Formula: C₃₈H₄₂N₂O₇

Molecular Weight: 638.759

Accurate Mass: 638.299203

Percentage Composition: C 71.45%; H 6.63%; N 4.39%; O 17.53%

Biological Source: Alkaloid from "Fen-Fang-Ji" (roots of *Stephania tetrandra*) (Menispermaceae)

Physical Description: Needles (Me₂CO)

Melting Point: Mp 174-176°

Optical Rotation: [α]_D²⁴+328.2 (c, 1.043 in CHCl₃)