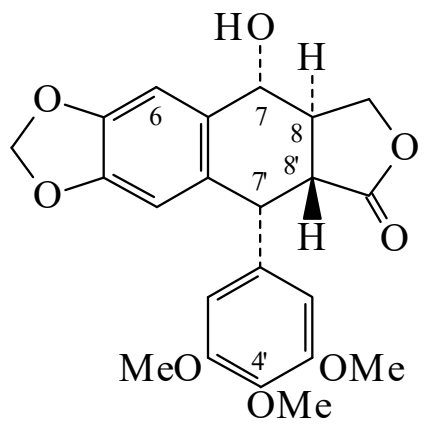
>>**Entry Name: Podophyllotoxin,** BAN

ENTRY UNDER REVIEW

Synonym(s): 7-Hydroxy-3',4',5'-trimethoxy-4,5-methylenedioxy-2,7'-cyclolignan-9',9-olide. Podofilox, USAN. Condyline. Condylox. Warticon. NSC 24818



CAS Registry Number: 518-28-5
Related CAS Registry Numbers(s): 77519-37-0

Molecular Formula: $C_{22}H_{22}O_8$
Molecular Weight: 414.411
Accurate Mass: 414.13147
Percentage Composition: C 63.76%; H 5.35%; O 30.89%

Biological Source: Lignan from *Podophyllum emodi* rhizomes. Also isol. from *Podophyllum peltatum*, other *Podophyllum* spp., *Diphylleia grayi, Callitris drummondii, Juniperus* spp. and *Linum flavum*
Use/Importance: Potent cytotoxin. Cell division inhibitor; inhibitor of human DNA topoisomerase II. Antimitotic agent. Used topically for treatment of external ano-genital warts and plantar warts
Physical Description: Cryst. (Me_2CO aq. or MeOH)
Melting Point: Mp 117-118°
Optical Rotation: $[\alpha]_D^{14}$–101.3 (EtOH)
Solubility: BERDY SOL: Sol. H_2O
Calculated Log P Data: Log P –0.84 (calc)
UV: [neutral] λ_{max} 289 (ε 3500) (EtOH) (Derep) [neutral] λ_{max} 292 () (MeOH) (Berdy) [neutral] λ_{max} 287 (ε 4300); 291 (ε 4350) (EtOH) (Berdy)
Other Data: 4 Crystal modifications reported. Mp's up to 188-189° have been reported for carefully dried samples
Hazard & Toxicity: Severe eye, skin and respiratory tract irritant. Severe adverse effects reported if swallowed incl. gastrointestinal, CNS, hepatotoxic, nephrotoxic, haemopoietic effects and development of peripheral and autonomic neuropathies. LD_{50} (rat, skn) 500 mg/kg. LD_{50} (mus, orl) 100 mg/kg ; BERDY HAZD : LD_{50} (mus, orl) 90 mg/kg

Aldrich: 85844-7
Fluka: 81125
Rare Chemicals Library: S40567-1
Sigma: P4405

>>**Derivative:** 7-*O*-β-D-Glucopyranoside

Molecular Formula: $C_{28}H_{32}O_{13}$
Molecular Weight: 576.553
Accurate Mass: 576.184295
Percentage Composition: C 58.33%; H 5.59%; O 36.08%
Biological Source: Isol. from *Podophyllum emodi* and from plants and cell cultures of *Linum flavum*
Use/Importance: Antineoplastic agent
Physical Description: Amorph. solid
Melting Point: Mp 149-152°
Optical Rotation: $[\alpha]_D^{20}$–65 (c, 0.5 in H_2O). $[\alpha]_D$ –75 (c, 0.6 in MeOH). $[\alpha]_D$ –117 (c, 0.67 in Py)
Calculated Log P Data: Log P –3.13 (uncertain value) (calc)

>>**Derivative:** Ac

CAS Registry Number: 1180-34-3
Physical Description: Cryst. (MeOH)
Melting Point: Mp 209.5-210.5°
Optical Rotation: $[\alpha]_D^{20}$–143 (c, 1 in $CHCl_3$)