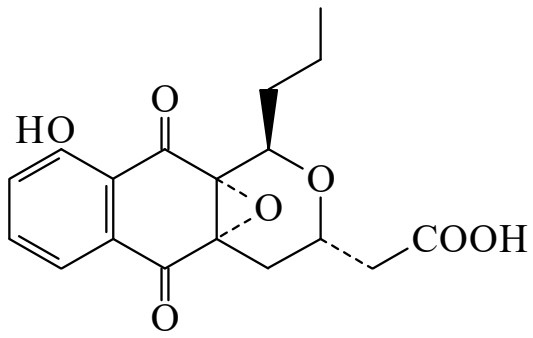
>>**Entry Name: Frenolicin**
Synonym(s): 3,4,5,10-Tetrahydro-9-hydroxy-5,10-dioxo-1-propyl-4*a*,10*a*-epoxy-1*H*-naphtho[2,3-*c*]pyran-3-acetic acid, 9Cl, 8Cl



CAS Registry Number: 10023-07-1

Molecular Formula: $C_{18}H_{18}O_7$
Molecular Weight: 346.336
Accurate Mass: 346.105255
Percentage Composition: C 62.42%; H 5.24%; O 32.34%
General Statement: Naphthoquinone antibiotic
Biological Source: Isol. from *Streptomyces fradiae*
Biological Use/Importance: Shows antibiotic props.
Physical Description: Pale yellow cryst. (C_6H_6)
Melting Point: Mp 161-162°
Optical Rotation: $[\alpha]_D^{25}$–37.7 (c, 1.5 in MeOH)
Solubility: BERDY SOL: Sol. MeOH, $CHCl_3$, bases; fairly sol. C_6H_6; poorly sol. H_2O, hexane
pKa Value: pK_{a1} 5.2; pK_{a2} 10 (50% MeOH aq.)
UV: [base] λ_{max} 218 (ε 23400); 249 (sh) (ε 7550); 280 (ε 5400); 425 (ε 5400) (MeOH/NaOH) (Derep) [neutral] λ_{max} 233 (ε 14400); 250 (sh) (ε 7550); 285 (sh) (ε 2880); 362 (ε 4680) (MeOH) (Derep) [neutral] λ_{max} 234 (ε 18300); 362 (ε 5200) (MeOH) (Berdy) [acid] λ_{max} 232 (E1%/1cm 590); 290 (E1%/1cm 185); 367 (E1%/1cm 220) (HCl) (Berdy) [base] λ_{max} 220 (E1%/1cm 500); 280 (E1%/1cm 110); 425 (E1%/1cm 108) (NAOH) (Berdy) [base] λ_{max} 273 (ε 8500); 534 (ε 4300) (MeOH-NAOH) (Berdy)

>>**Derivative:** Ac

Melting Point: Mp 161-163.5°
Optical Rotation: $[\alpha]_D^{25}$+10.3 (c, 1.06 in MeOH)

>>**Derivative:** Me ester

Melting Point: Mp 82-83°
Optical Rotation: $[\alpha]_D^{25}$–31.7 (c, 0.987 in MeOH)

>>**Derivative:** Me ether, Me ester

Melting Point: Mp 109-110°
Optical Rotation: $[\alpha]_D^{25}$+39.6 (c, 1.06 in MeOH)

>>**Derivative:** Deepoxy, 4*a*,10*a*-didehydro
Synonym(s): Deoxyfrenolicin

CAS Registry Number: 10023-11-7

Molecular Formula: $C_{18}H_{18}O_6$
Molecular Weight: 330.337
Accurate Mass: 330.11034
Percentage Composition: C 65.45%; H 5.49%; O 29.06%
Biological Source: From *Streptomyces roseofulvus*
Biological Use/Importance: Effective against yeast, fungi and *Mycoplasma*. Shows antimalarial activity
Physical Description: Yellow needles (C_6H_6)
Melting Point: Mp 173-175°
Optical Rotation: $[\alpha]_D^{25}$+118.4 (c, 1 in MeOH)
Solubility: BERDY SOL: Sol. MeOH; poorly sol. H_2O
UV: [base] λ_{max} (solvent not reported) (Derep) [neutral] λ_{max} 245 (ε 10300); 272 (ε 12000); 418 (ε 4100) (MeOH) (Derep) [neutral] λ_{max} 245 (ε 10262); 246 (ε 9070); 272 (ε 11946); 274 (ε 11400); 415 (ε 4290); 418 (ε 4092) (MeOH) (Berdy) [base] λ_{max} 276 (ε 12880); 515 (ε 5275) (MeOH-NAOH) (Berdy)
Other Data: Has double bond replacing epoxide function

References: