# 1-Phenanthrenecarboxaldehyde, 7-ethenyl-1,2,3,4,4a,4b,5,6,7,9,10,10a-dodecahydro-1,4a-dimethyl-8-methylene-, [1R-(1«alpha»,4a«beta»,4b«alpha»,7«beta»,10a«alpha»)]-

**Other names:** Podocarp-8(14)-en-15-al, 13«alpha»-methyl-13-vinyl-
Cryptopinon
Cryptopinone
Dextropimarinal
Pimaral
Pimarinal

**Inchi:** InChI=1S/C20H30O/c1-5-18(2)12-9-16-15(13-18)7-8-17-19(3,14-21)10-6-11-20(16,17)4/h5,14,16-17H,1-2,6-13H2,3-4H3/t16-,17+,19+,20+/m1/s1

**InchiKey:** JKBKXKTXDKYEOR-UHFFFAOYSA-N

**Formula:** C20H30O

**SMILES:** C=CC1(C)C=C2CCC3C(C)(C=O)CCCC3(C)C2CC1

**Mol. weight [g/mol]:** 286.45

**CAS:** 472-39-9

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 216.03 | kJ/mol | Joback Method |
| hf | -177.33 | kJ/mol | Joback Method |
| hfus | 16.55 | kJ/mol | Joback Method |
| hvap | 63.65 | kJ/mol | Joback Method |
| log10ws | -5.66 | | Crippen Method |
| logp | 5.321 | | Crippen Method |
| mcvol | 253.050 | ml/mol | McGowan Method |
| pc | 1711.78 | kPa | Joback Method |
| rinpol | 2177.00 | | NIST Webbook |
| rinpol | 2154.00 | | NIST Webbook |
| rinpol | 2171.57 | | NIST Webbook |
| rinpol | 2149.00 | | NIST Webbook |
| rinpol | 2177.00 | | NIST Webbook |
| ripol | 2761.00 | | NIST Webbook |
| ripol | 2749.00 | | NIST Webbook |
| tb | 739.43 | K | Joback Method |
| tc | 979.37 | K | Joback Method |
| tf | 468.12 | K | Joback Method |
| vc | 0.963 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 790.90 | J/mol×K | 739.43 | Joback Method |
| cpg | 816.13 | J/mol×K | 779.42 | Joback Method |
| cpg | 841.06 | J/mol×K | 819.41 | Joback Method |
| cpg | 866.16 | J/mol×K | 859.40 | Joback Method |
| cpg | 891.89 | J/mol×K | 899.39 | Joback Method |
| cpg | 918.71 | J/mol×K | 939.38 | Joback Method |
| cpg | 947.09 | J/mol×K | 979.37 | Joback Method |

# Sources

**Crippen Method:** https://www.chemeo.com/doc/models/crippen_log10ws
**Joback Method:** https://en.wikipedia.org/wiki/Joback_method
**McGowan Method:** http://link.springer.com/article/10.1007/BF02311772
**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C472399&Units=SI
**Crippen Method:** http://pubs.acs.org/doi/abs/10.1021/ci990307l

# Legend

**cpg:** Ideal gas heat capacity
**gf:** Standard Gibbs free energy of formation
**hf:** Enthalpy of formation at standard conditions
**hfus:** Enthalpy of fusion at standard conditions
**hvap:** Enthalpy of vaporization at standard conditions
**log10ws:** Log10 of Water solubility in mol/l
**logp:** Octanol/Water partition coefficient
**mcvol:** McGowan's characteristic volume
**pc:** Critical Pressure
**rinpol:** Non-polar retention indices
**ripol:** Polar retention indices
**tb:** Normal Boiling Point Temperature
**tc:** Critical Temperature
**tf:** Normal melting (fusion) point
**vc:** Critical Volume