# Phenanthrene, 3,10-dimethyl

**Other names:** 3,10-Dimethylphenanthrene
**Inchi:** InChI=1S/C16H14/c1-11-7-8-14-12(2)10-13-5-3-4-6-15(13)16(14)9-11/h3-10H,1-2H3
**InchiKey:** AFMJHHLNGATZLL-UHFFFAOYSA-N
**Formula:** C16H14
**SMILES:** Cc1ccc2c(C)cc3ccccc3c2c1
**Mol. weight [g/mol]:** 206.28

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 380.66 | kJ/mol | Joback Method |
| hf | 210.69 | kJ/mol | Joback Method |
| hfus | 24.11 | kJ/mol | Joback Method |
| hvap | 58.75 | kJ/mol | Joback Method |
| log10ws | -6.03 | | Crippen Method |
| logp | 4.610 | | Crippen Method |
| mcvol | 173.620 | ml/mol | McGowan Method |
| pc | 2555.92 | kPa | Joback Method |
| rinpol | 340.79 | | NIST Webbook |
| rinpol | 339.47 | | NIST Webbook |
| rinpol | 339.65 | | NIST Webbook |
| rinpol | 340.79 | | NIST Webbook |
| rinpol | 341.75 | | NIST Webbook |
| rinpol | 339.90 | | NIST Webbook |
| tb | 645.06 | K | Joback Method |
| tc | 889.67 | K | Joback Method |
| tf | 399.46 | K | Joback Method |
| vc | 0.667 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 429.69 | J/mol×K | 645.06 | Joback Method |
| cpg | 445.30 | J/mol×K | 685.83 | Joback Method |
| cpg | 459.74 | J/mol×K | 726.60 | Joback Method |

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|---|---|---|---|---|
| cpg | 473.15 | J/mol×K | 767.36 | Joback Method |
| cpg | 485.63 | J/mol×K | 808.13 | Joback Method |
| cpg | 497.31 | J/mol×K | 848.90 | Joback Method |
| cpg | 508.31 | J/mol×K | 889.67 | Joback Method |
| dvisc | 0.0012344 | Pa×s | 399.46 | Joback Method |
| dvisc | 0.0009553 | Pa×s | 440.39 | Joback Method |
| dvisc | 0.0007722 | Pa×s | 481.33 | Joback Method |
| dvisc | 0.0006454 | Pa×s | 522.26 | Joback Method |
| dvisc | 0.0005537 | Pa×s | 563.19 | Joback Method |
| dvisc | 0.0004850 | Pa×s | 604.13 | Joback Method |
| dvisc | 0.0004320 | Pa×s | 645.06 | Joback Method |

# Sources

**Crippen Method:** http://pubs.acs.org/doi/abs/10.1021/ci990307l
**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=R67588&Units=SI

# Legend

**cpg:** Ideal gas heat capacity
**dvisc:** Dynamic viscosity
**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
**tb:** Normal Boiling Point Temperature
**tc:** Critical Temperature
**tf:** Normal melting (fusion) point
**vc:** Critical Volume