

Ruthenium, tris(2,4-pentanedionato)-

Other names:	ruthenium (III) acetylacetonate tris(2,4-pentanedionato)ruthenium(III) tris(pentane-2,4-dionato-O,O')ruthenium
Inchi:	InChI=1S/3C5H8O2.Ru/c3*1-4(6)3-5(2)7;/h3*3,6H,1-2H3;/q;;;+3/p-3/b3*4-3-;
InchiKey:	RTZYCRSRNSTRGC-LNTINUHCSA-K
Formula:	C ₁₅ H ₂₁ O ₆ Ru
SMILES:	CC(=O)C=C(C)O[Ru](OC(C)=CC(C)=O)OC(C)=CC(C)=O
Mol. weight [g/mol]:	398.39
CAS:	14284-93-6

Physical Properties

Property code	Value	Unit	Source
ea	1.76 ± 0.07	eV	NIST Webbook
ea	1.67 ± 0.02	eV	NIST Webbook
hsub	145.10 ± 2.50	kJ/mol	NIST Webbook
tf	504.00	K	Low-temperature heat capacity of Ru(C ₅ H ₇ O ₂) ₃

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
hsubt	129.10 ± 2.00	kJ/mol	404.00	NIST Webbook
hsubt	148.80 ± 1.70	kJ/mol	417.50	NIST Webbook
hsubt	128.90 ± 1.90	kJ/mol	406.00	NIST Webbook
hsubt	127.00 ± 0.90	kJ/mol	458.00	NIST Webbook
hsubt	139.70 ± 2.50	kJ/mol	405.50	NIST Webbook
psub	1.17e-04	kPa	408.02	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates

psub	3.80e-05	kPa	398.51	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	5.70e-05	kPa	403.26	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	1.06e-04	kPa	408.02	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	2.90e-05	kPa	393.75	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	2.50e-04	kPa	412.78	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	3.55e-04	kPa	417.53	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	4.43e-04	kPa	417.54	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates

psub	5.92e-04	kPa	422.30	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	8.91e-04	kPa	427.15	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	1.39e-03	kPa	431.81	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	1.41e-03	kPa	431.81	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	1.84e-03	kPa	436.57	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates
psub	3.53e-03	kPa	441.33	Thermal Stability, Sublimation Pressures, and Diffusion Coefficients of Anthracene, Pyrene, and Some Metal beta-Diketonates

Sources

Measurements of binary diffusion coefficients for metal complexes in organic solvents by the Taylor dispersion method :

<https://www.doi.org/10.1016/j.fluid.2010.06.003>

Solubility of two metal-organic
ruthenium precursors in supercritical
CO₂ temperature and capacity of
BwG 70213
Thermal Stability, Sublimation
Pressures, and Diffusion Coefficients
Of Anthracene, Pyrene, and Some Metal
beta-Diketonates:

<https://www.doi.org/10.1016/j.jct.2012.09.029>

<https://www.doi.org/10.1016/j.jct.2014.10.016>

<https://www.doi.org/10.1021/je9001653>

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C14284936&Units=SI>

Legend

ea:	Electron affinity
hsub:	Enthalpy of sublimation at standard conditions
hsubt:	Enthalpy of sublimation at a given temperature
psub:	Sublimation pressure
tf:	Normal melting (fusion) point

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