



>>Entry Name: **Tris(2,4-pentanedionato-*O,O'*)ruthenium(III)**, 9CI

Synonym(s): Tris(acetylacetonato)ruthenium(III). Ruthenium(III) acetylacetonate. Ru(acac)₃

CAS Registry Number: 14284-93-6

Related CAS Registry Numbers(s): 31378-26-4 31378-27-5

As Tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)ruthenium(III), [HZM55-R](#) with
 $R^1 = R^2 = CH_3$

Molecular Formula: C₁₅H₂₁O₆Ru

Molecular Weight: 398.397

Accurate Mass: 399.038163

Percentage Composition: C 45.22%; H 5.31%; O 24.10%; Ru 25.37%

Source/Synthesis: Prepd. by treating aq. RuCl₃·xH₂O and acac with KHCO₃

Physical Description: Blood-red cryst. (C₆H₆ or CHCl₃)

Melting Point: Mp 237-238°

Solubility: Insol. H₂O; sol. C₆H₆, CHCl₃, MeCN

Other Data: Sublimes *in vacuo* (red vapour burns in air). μ_{eff} = 1.91μ_B

Aldrich: 28276-6

Fluka: 84034

Other: Gelest AKR670

References:

- Barbieri, G.A., *Atti Accad. Naz. Lincei, Cl. Sci. Fis., Mat. Nat., Rend.*, 1914, **23**, 334, (*synth*)
Hartmann, H. *et al.*, *Z. Phys. Chem. (Munich)*, 1957, **11**, 120, (*magnetism, uv*)
Jørgensen, C.K., *Acta Chem. Scand.*, 1962, **16**, 2406, (*uv*)
Figgis, B.N. *et al.*, *J.C.S.(A)*, 1966, 422, (*synth, magnetism*)
Fay, R.C. *et al.*, *J.A.C.S.*, 1970, **92**, 7056, (*resoln*)
Chao, G.K.-J. *et al.*, *Acta Cryst. B*, 1973, **29**, 2845, (*cryst struct*)
DeSimone, R.E., *J.A.C.S.*, 1973, **95**, 6238, (*epr*)
Von Dreele, R.B. *et al.*, *Proc. Int. Conf. Coord. Chem.*, 16th, 1974, 1974, 2.30a, (*cd, ord*)
Gregson, A.K. *et al.*, *Aust. J. Chem.*, 1979, **32**, 1407, (*pmr*)
Bergen, H.A. *et al.*, *Mol. Phys.*, 1979, **37**, 1371, (*cmr*)
Japan. Pat., 1980, 80 92330; *CA*, **94**, 15193, (*catalysis*)
Yamagishi, A., *Inorg. Chem.*, 1982, **21**, 3393, (*resol*)
Drake, A.F. *et al.*, *Polyhedron*, 1983, **2**, 537, (*resol*)
Drake, A.F. *et al.*, *Chem. Phys. Lett.*, 1984, **110**, 630, (*liq. cryst.*)
Aynetchi, S. *et al.*, *Inorg. Chim. Acta*, 1986, **113**, L7, (*pe, electrochem*)
Kobayashi, H. *et al.*, *Inorg. Chem.*, 1987, **26**, 4318, (*resoln, cd*)
Matsuzawa, H. *et al.*, *Inorg. Chem.*, 1988, **27**, 2981, (*cryst struct, abs config*)
Endo, A. *et al.*, *Bull. Chem. Soc. Jpn.*, 1989, **62**, 709; 4095, (*electrochem*)
Coq, B. *et al.*, *Appl. Catal.*, 1990, **60**, 33, (*catalysis*)
Kasahara, Y. *et al.*, *Chem. Lett.*, 1990, 381, (*reactions*)
Richardson, D.E. *et al.*, *Inorg. Chem.*, 1990, **29**, 3213, (*electrochem, thermochem*)
Jenner, G. *et al.*, *J. Organomet. Chem.*, 1990, **387**, 315, (*catalysis*)
Matsue, H. *et al.*, *J. Radioanal. Nucl. Chem.*, 1990, **145**, 271, (*nuclear chem*)