



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

Synonym(s): Tris(acetylacetonato)terbium(III). Terbium(III) acetylacetonate. Tb(acac)₃

CAS Registry Number: 14284-95-8

As Tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)terbium(III), [HRD28-O](#) with
 $R^1 = R^2 = CH_3$

Molecular Formula: C₁₅H₂₁O₆Tb

Molecular Weight: 456.253

Accurate Mass: 456.059157

Percentage Composition: C 39.49%; H 4.64%; O 21.04%; Tb 34.83%

Use/Importance: Forms green light emitting devices

Physical Description: Moisture-sensitive white solid

Melting Point: Mp 101.5° (cryst. form)

Solubility: Sol. acetylacetone, THF

Other Data: Obt. in cryst. and amorphous forms

Other: Gelest AKT820

>>Derivative: Trihydrate

CAS Registry Number: 16743-69-4

Molecular Formula: C₁₅H₂₇O₉Tb

Molecular Weight: 510.298

Percentage Composition: C 35.31%; H 5.33%; O 28.22%; Tb 31.14%

Physical Description: White cryst.

>>Derivative: 2,7-Dimethyl-1,8-naphthyridine complex

CAS Registry Number: 60146-67-0

Molecular Formula: C₂₅H₃₁N₂O₆Tb

Molecular Weight: 614.455

Accurate Mass: 614.143555

Percentage Composition: C 48.87%; H 5.08%; N 4.56%; O 15.62%; Tb 25.86%

Physical Description: White cryst.

>>Derivative: Phen complex

CAS Registry Number: 18078-86-9

Molecular Formula: C₂₇H₂₉N₂O₆Tb

Molecular Weight: 636.461

Accurate Mass: 636.127905

Percentage Composition: C 50.95%; H 4.59%; N 4.40%; O 15.08%; Tb 24.97%

Physical Description: White cryst.

Melting Point: Mp 225-227°

Solubility: Sol. EtOH

References:

Pope, G.W. *et al.*, *J. Inorg. Nucl. Chem.*, 1961, **20**, 304, (*synth*)

Koehler, J.M. *et al.*, *Inorg. Nucl. Chem. Herbert H. Hyman Mem. Vol.*, Suppl. to *J. Inorg. Nucl. Chem.*, 1967, **3**, 545, (*anhydrous*)

Przystal, J.K. *et al.*, *J. Inorg. Nucl. Chem.*, 1971, **33**, 679, (*anhydrous*)

Butter, E., *CA*, 1972, **77**, 83093, (*phen deriv*)

NgSee, M. *et al.*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 71, (*naphthyridine deriv*)

Liss, I.B. *et al.*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 443, (*anhydrous*)

Gmelin Handbook Inorg. Chem., Syst. No. 39 Suppl. Vol., 1981, **D3**, 82, (*rev*)

Kido, J. *et al.*, *J. Alloys Compd.*, 1993, **192**, 30-33, (*use*)