



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

Synonym(s): Tris(acetylacetonato)yttrium(*III*). Yttrium(*III*) acetylacetonate. Y(acac)₃

CAS Registry Number: 15554-47-9

Related CAS Registry Numbers(s): 56831-08-4

As Tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)yttrium(*III*), [HRB17-A](#) with
 $R^1 = R^2 = CH_3$

Molecular Formula: C₁₅H₂₁O₆Y

Molecular Weight: 386.233

Accurate Mass: 386.039664

Percentage Composition: C 46.65%; H 5.48%; O 24.85%; Y 23.02%

Source/Synthesis: Synth. from Y[N(SiMe₃)₂]₃ and Hacac in toluene

Use/Importance: Used in synth. of metastable Zirconia

Physical Description: Moisture-sensitive colourless solid

Melting Point: Mp 102° (cryst. form)

Solubility: Sol. acetylacetone, toluene

Other Data: Anhyd. compd. obt. in 2 forms, cryst. and amorphous. Undergoes hydrol. in hexane to form Y₄(OH)₂(acac)₁₀

Other: Gelest AKY930

>>Derivative: Monohydrate

CAS Registry Number: 56831-10-8

Molecular Formula: C₁₅H₂₃O₇Y

Molecular Weight: 404.248

Percentage Composition: C 44.57%; H 5.73%; O 27.70%; Y 21.99%

Physical Description: Colourless cryst.

Melting Point: Mp 130°

>>Derivative: Trihydrate

CAS Registry Number: 17068-53-0

Molecular Formula: C₁₅H₂₇O₉Y

Molecular Weight: 440.279

Percentage Composition: C 40.92%; H 6.18%; O 32.71%; Y 20.19%

Physical Description: Colourless needles (aq. EtOH)

Melting Point: Mp 129-131°. Mp 131-132° (141-142°)

Other Data: 8-Coord. with 1 H₂O in lattice

>>Derivative: Phen complex

Synonym(s): Tris(2,4-pentanedionato-*O,O'*)(1,10-phenanthroline-*N*¹,*N*¹⁰)yttrium

CAS Registry Number: 18040-73-8

Molecular Formula: C₂₇H₂₉N₂O₆Y

Molecular Weight: 566.442

Accurate Mass: 566.108412

Percentage Composition: C 57.25%; H 5.16%; N 4.95%; O 16.95%; Y 15.70%

Physical Description: Colourless cryst.

Melting Point: Mp 230-232°

Solubility: Sol. EtOH

>>Derivative: Phen *N*-oxide complex

CAS Registry Number: 137202-47-2

Molecular Formula: C₂₇H₂₉N₂O₇Y

Molecular Weight: 582.441

Accurate Mass: 582.103327

Percentage Composition: C 55.68%; H 5.02%; N 4.81%; O 19.23%; Y 15.26%

Physical Description: Pale yellow cryst (MeCN)

Other Data: Has 8-coord. Y in distorted sq. antiprismatic struct.

References: