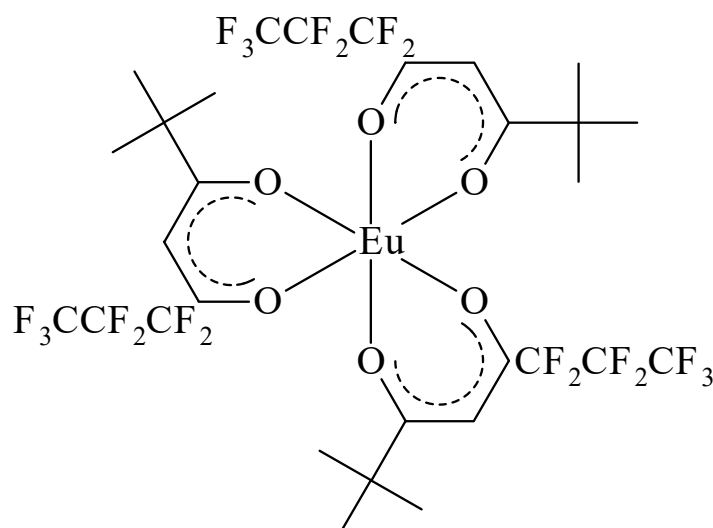




>>Entry Name: Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)europium(III), 9Cl

Synonym(s): Sievers' reagent. Resolve-Al EuFOD. Eu(fod)₃



CAS Registry Number: 17631-68-4

Related CAS Registry Numbers(s): 18284-89-4 49792-35-0

Molecular Formula: C₃₀H₃₀EuF₂₁O₆

Molecular Weight: 1037.495

Accurate Mass: 1038.091928

Percentage Composition: C 34.73%; H 2.91%; Eu 14.65%; F 38.45%; O 9.25%

Use/Importance: Nmr chiral downfield shift reagent. Resolves diastereotopic protons, e.g. in β-lactams. Distinguishes between thiocyanates + isothiocyanates. Applicable to carboxylic acids and phenols. Catalyses epoxide ring opening with thiols, also aldol addn., cyanohydrin formation and oxirane ring opening reactions. Commercially available. Catalyses [4+2] cycloaddition of methoxybutadiene to carbonyl compds., and hetero-Diels-Alder reactions. Does not catalyse diene polym.

Physical Description: Hygroscopic, volatile bright-yellow cryst.

Melting Point: Mp 205-212 dec.°. Mp 203-207°

Solubility: Insol. H₂O

Other Data: Intense red fluor. in uv light

Aldrich: 16093-8

Fluka: 46143

Sigma: T6512

Other: Gelest AKE287

>>Derivative: Hemihydrate

CAS Registry Number: 35887-40-2

Physical Description: White cryst. (CH₂Cl₂)

Melting Point: Mp 59-67°

>>Derivative: Monohydrate

CAS Registry Number: 49792-35-0

Physical Description: Colourless solid

Solubility: Sol. CH₂Cl₂, MeOH

Other Data: Loses H₂O in vacuo over P₂O₅

References:

- Aldrich Library of FT-IR Spectra*, 1st edn., 1985, **1**, 559D, (ir)
Springer, C.S. *et al.*, *Inorg. Chem.*, 1967, **6**, 1522, (synth, ir, nmr)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713
Rondeau, R. *et al.*, *J.A.C.S.*, 1971, **93**, 1522, (use)
Bose, A.K. *et al.*, *Tet. Lett.*, 1972, 3599, (use)
Marians, P.S. *et al.*, *Tet. Lett.*, 1972, 5305, (use)
Cockerill, A.F. *et al.*, *Chem. Rev.*, 1973, **73**, 553, (rev)
Mayo, B.C., *Chem. Soc. Rev.*, 1973, **2**, 49, (rev)
Risby, T.H. *et al.*, *Anal. Chem.*, 1974, **46**, 726, (ms)
Werstler, D.D. *et al.*, *Anal. Chem.*, 1975, **47**, 144, (use)
Schoffner, J.P., *Anal. Chem.*, 1975, **47**, 341, (use)
De Puy, C.H. *et al.*, *J.A.C.S.*, 1976, **98**, 276, (use)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 155, (rev, bibl)
Bednarski, M. *et al.*, *J.A.C.S.*, 1983, **105**, 3716, (use)
Jurczak, J. *et al.*, *Synthesis*, 1985, 928, (use)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1986, **12**, 559, (use)
Vougioukas, A.E. *et al.*, *Tet. Lett.*, 1987, **28**, 5513; 6065, (uses)