



>>Entry Name: Lutetium(III) trifluoromethanesulfonate

Synonym(s): Lutetium triflate. Tris(trifluoromethanesulfonato)lutetium

CAS Registry Number: 126857-69-0

$\text{Lu}(\text{OSO}_2\text{CF}_3)_3$

Molecular Formula: $\text{C}_3\text{F}_9\text{LuO}_9\text{S}_3$

Molecular Weight: 622.178

Accurate Mass: 621.796842

Percentage Composition: C 5.79%; F 27.48%; Lu 28.12%; O 23.14%; S 15.46%

Use/Importance: Commercially available. Lewis acid catalyst for reaction of silyl enol ethers with 2-pyridinecarboxaldehyde or salicylaldehyde

Other Data: Affords LuF_3 on pyrolysis

Aldrich: 40534-5

Fluka: 62710

>>Derivative: Nonahydrate

CAS Registry Number: 85920-59-8

Molecular Formula: $\text{C}_3\text{H}_{18}\text{F}_9\text{LuO}_{18}\text{S}_3$

Molecular Weight: 784.315

Percentage Composition: C 4.59%; H 2.31%; F 21.80%; Lu 22.31%; O 36.72%; S 12.27%

Physical Description: Colourless cryst.

Solubility: Sol. H_2O , EtOH, MeCN

Other Data: Contains $[\text{Lu}(\text{OH}_2)_9]^{3(+)}$ ions which are tricapped trigonal prismatic

References:

U.S. Pat., 1971, 3 615 169; *CA*, 1972, **76**, 5436, (*synth, use*)

Harrowfield, J.Mc.B. *et al.*, *Aust. J. Chem.*, 1983, **36**, 483, (*synth, cryst struct*)

Vincentini, G. *et al.*, *J. Less-Common Met.*, 1983, **94**, 285, (*complexes*)