



CAS Registry Number: 13494-98-9

Molecular Formula: $\text{H}_{12}\text{N}_3\text{O}_{15}\text{Y}$

Molecular Weight: 383.012

Percentage Composition: H 3.16%; N 10.97%; O 62.66%; Y 23.21%

Physical Description: Deliquescent colourless cryst.

Solubility: V. sol. H_2O ; sol. EtOH, Me_2CO

Other Data: 10-Coord. Y; contains $\text{Y}(\text{NO}_3)_3 \cdot 4\text{H}_2\text{O}$ units. Isomorphous with Gd, Pr, Nd analogues. Loses 3 H_2O at 100°

Aldrich: 23795-7

>>**Derivative:** Trihydrate, bis-bipy complex

Synonym(s): Triaquatris(nitrato)yttrium bis-bipyridine

CAS Registry Number: 84240-13-1

Molecular Formula: $\text{C}_{20}\text{H}_{22}\text{N}_7\text{O}_{12}\text{Y}$

Molecular Weight: 641.339

Accurate Mass: 641.038497

Percentage Composition: C 37.46%; H 3.46%; N 15.29%; O 29.94%; Y 13.86%

Other Data: Contains 9-coord. $\text{Y}(\text{NO}_3)_3(\text{H}_2\text{O})_3$ molecules with bipy unbound. Analogues known for Nd, Sm, Eu, Gd, Th, Dy, Ho

>>**Derivative:** Trihydrate, 18-crown-6 complex (1:1)

Molecular Formula: $\text{C}_{12}\text{H}_{30}\text{N}_3\text{O}_{18}\text{Y}$

Molecular Weight: 593.284

Accurate Mass: 593.058291

Percentage Composition: C 24.29%; H 5.10%; N 7.08%; O 48.54%; Y 14.99%

Source/Synthesis: Synth. from $\text{Y}(\text{NO}_3)_3 \cdot x\text{H}_2\text{O}$ and 18-crown.6 in MeCN/MeOH

Physical Description: Colourless cryst.

Other Data: Contains 9-coord. Y with $\text{Y}(\text{NO}_3)_3(\text{H}_2\text{O})_3$ molecules H-bonded to crown ether. Similar compds. formed by M = Y, Eu, Tb-Lu

References:

Cleve, P.T. *et al.*, *Bull. Soc. Chim. Fr.*, (2), 1873, **18**, 193, (*synth*)

Marsh, J.K., *J.C.S.*, 1941, 561, (*synth*)

Inorg. Synth., 1957, **5**, 37, (*synth*)

Ribár, B. *et al.*, *Cryst. Struct. Commun.*, 1980, **9**, 203

Eriksson, E., *Acta Chem. Scand., Ser. A*, 1982, **36**, 186-188, (*pentahydrate, synth, cryst struct*)

Weakley, T.J.R. *et al.*, *Inorg. Chim. Acta*, 1982, **63**, 161, (*cryst struct*)

Radivojević, P. *et al.*, *Croat. Chem. Acta*, 1984, **57**, 451, (*dta*)

Thompson, A.R. *et al.*, *Chem. Comm.*, 1987, 27-29, (*hexahydrate, mas Y-89 nmr*)

Ribár, B. *et al.*, *Acta Cryst. C*, 1988, **44**, 595; 1990, **46**, 525-527, (*monohydrate, synth, cryst struct*)

Merwin, L.H. *et al.*, *J. Magn. Reson.*, 1990, **88**, 167-171, (*hexahydrate, mas Y-89 nmr*)

Miyamoto, H. *et al.*, *Kidorui*, 1991, **18**, 78-79; *CA*, **116**, 160134p, (*monohydrate, thermodyn*)

Rogers, R.D. *et al.*, *J. Chem. Crystallogr.*, 1994, **24**, 321, (*18-crown-6 complex, synth, cryst struct*)

Bouchet, R. *et al.*, *Thermochim. Acta*, 1994, **241**, 229-246, (*pentahydrate, thermodyn*)