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Synthesis and structure of μ -oxobis [(trifluoromethanesulfonate)-(tri-para-tolyl) antimony][(4-C₆H₄Me)₃SbOSO₂CF₃)]₂O

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Abstract

Reaction of tri-*para*-tolyl)antimony with trifluoromethanesulfonic acid in presence of tertiary butyl hydroperoxide in water-ether solution produces with the yield 95% μ -oxo-*bis*[(trifluoromethanesulfonate)(tri-*para*-tolyl)antimony] (I). In the two types of crystallographically independent binuclear molecules Ia and Ib angles SbOSb make up 137.4(5)° and 137.5(5)° respectively. Antimony atoms have a distorted trigonal-bipyramidal coordination. Distances Sb-C vary in the range of 2.089(5)-2.121(5) Å. Bonds of antimony atoms with the bridging oxygen atom [1.941(4)-1.957(4) Å] are shorter than with oxygen atoms of trifluoromethanesulfonate group [2.356(4)-2.407(5) Å]. Axial angles $O_{bridge}SbO_{therm}$ make up 175.4(2)-177.0(2)°.