On Attempts to Synthesize Lanthanide Complexes of the Dianionic Fluorenyl-alkoxo Ligand [C$_{13}$H$_8$-cyclo-C$_6$H$_{10}$-O]$^{2-}$.
Crystal Structure of (C$_{13}$H$_9$-cyclo-C$_6$H$_{10}$-O)LaI$_2$(DME)$_2$

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Racemic trans-2-(9(H)-fluoren-9-yl)cyclohexanol, C$_{13}$H$_9$-cyclo-C$_6$H$_{10}$-OH (1), reacts with two equivalents of potassium naphthalenide in THF to give the dipotassium salt [C$_{13}$H$_8$-cyclo-C$_6$H$_{10}$-O]$^-$K$_2$(THF) (2). Recrystallization of 2 from pyridine affords the solvent free salt [C$_{13}$H$_8$-cyclo-C$_6$H$_{10}$-O]K$_2$ (3). The reactions of LaI$_3$(THF)$_4$ with one equivalent of 2 or of YbI$_2$(THF)$_2$ with equimolar amounts of 2 produce the alkoxolanthanum diiodide (C$_{13}$H$_9$-cyclo-C$_6$H$_{10}$-O)LaI$_2$(DME)$_2$ (4) and the ytterbium dialkoxide (C$_{13}$H$_9$-cyclo-C$_6$H$_{10}$-O)$_2$Yb(THF)$_0$.5(5), respectively. [(Me$_3$Si)$_2$N]$_3$Y reacts with three equivalents of 1 with elimination of hexamethyldisilazane and formation of the yttrium trialkoxide (C$_{13}$H$_9$-cyclo-C$_6$H$_{10}$-O)$_3$Y (6). The compounds 2 to 5 were characterized by elemental analyses, $^1$H NMR, $^{13}$C NMR and IR spectra. The molecular structure of 4 was determined by single crystal X-ray diffraction.

**Key words:** Yttrium, Lanthanum, Ytterbium, Lanthanide(fluorenyl)alkoxides