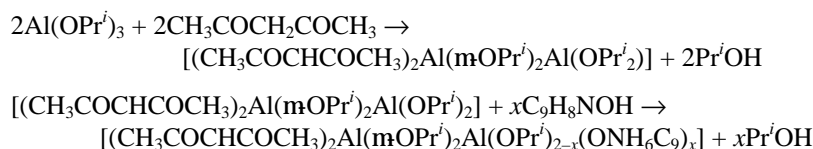


Aluminium(III) alkoxides as unique synthons for heterocyclic derivatives containing aluminium(III) atoms in different coordination states

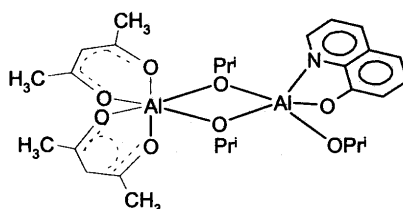
R BOHRA, NIKITA SHARMA and S NAGAR
 Department of Chemistry, University of Rajasthan, Jaipur 302 004, India

Facile reactivity of aluminium(III) alkoxides with organic protic reagents with alcohol as the only side product provides a convenient method for the synthesis of a variety of products which may not be synthesized by any other route. The possibility of removal of alcohol azeotropically with solvent benzene makes it possible to prepare mixed ligand derivatives in interesting coordination states depending upon the uni/polydentate nature of the reagent:

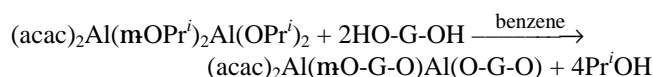
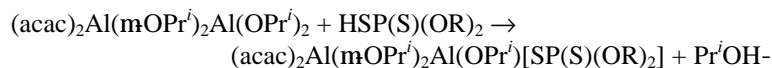


($x = 1$ or 2 ; $\text{C}_9\text{H}_8\text{NOH} = 8$ -hydroxyquinoline)

The ^{27}Al NMR spectra of a representative derivative $[(\text{CH}_3\text{COCHCOCH}_3)_2\text{Al}(\text{mOPr}^i)_2\text{Al}(\text{OPr}^i)(\text{ONH}_6\text{C}_9)]$, exhibit signals at $\delta 11.22$ and 0.81 ppm indicating the presence of both penta- and hexa-coordinated aluminium(III) atoms.



Similarly reactions of the following types yield interesting derivatives containing aluminium(III) atoms at different coordination states.



(where $\text{acac} =$ acetylacetonate, ester, $\text{HO-G-OH} =$ glycols and $\text{HSP}(\text{S})(\text{OR})_2 =$ dithiophosphoric acid).