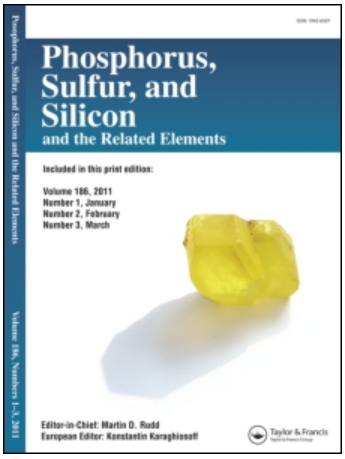

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Synthesis of Amimoalkaejediphosphonic Acids

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SYNTHESIS OF AMINOALKANEDIPHOSPHONIC ACIDS

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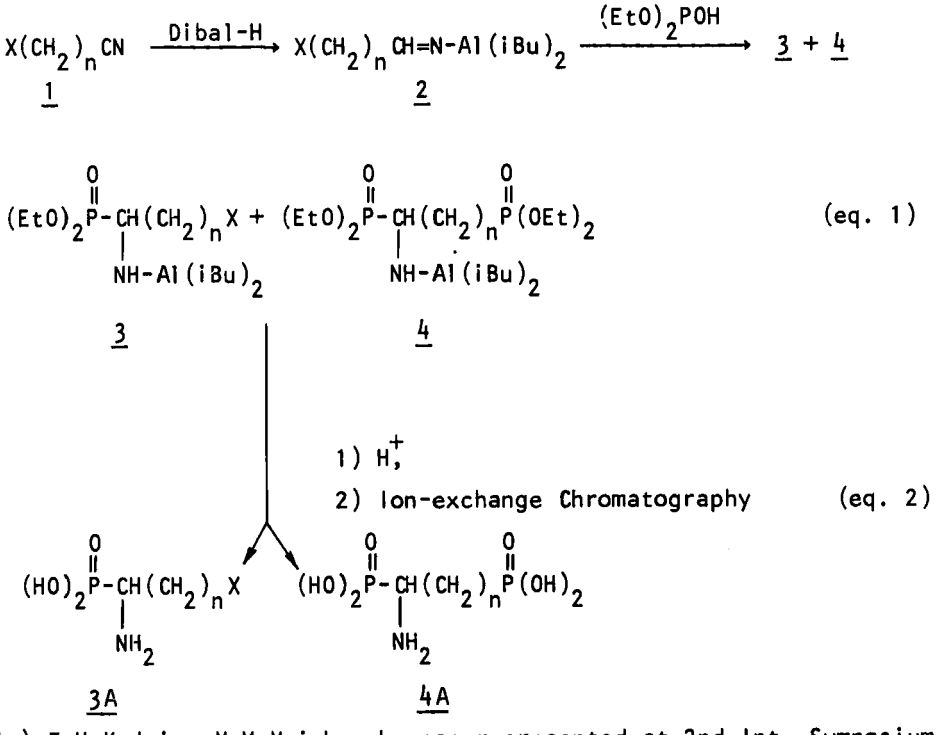
Recently we have reported the application of N-diisobutylaluminoimines, generated in situ from nitriles and diisobutylaluminium hydride (Dibal-H), for the synthesis of 1-aminoalkanephosphonic acids [1]. In this paper we would like to present our results on the synthesis of 1-aminoalkanediphosphonic acids. Thus, starting from halogenonitriles 1 (X = F, Cl, Br), and following the procedure presented schematically by eqns. 1 and 2, 1-amino-halogenoalkanephosphonic acids 3A and 1-aminoalkanediphosphonic acids 4A have been obtained in moderate to good yields.



3 4

3A 4A

1.) Z.H.Kudzin, M.M.Majchrzak, paper presented at 2nd Int. Symposium on "Phosphorus chemistry directed towards biology", Poland, Lódź 1986