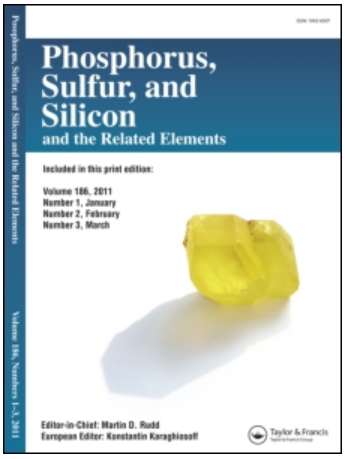

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Thiazolium-Substituted Gem-Bisphosphonates

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THIAZOLIUM-SUBSTITUTED GEM-BISPHOSPHONATES.

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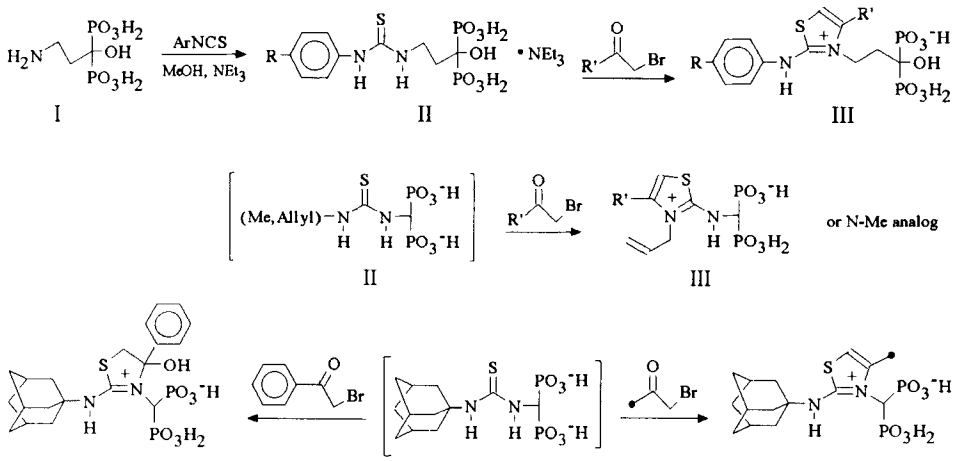
Heterocyclic derivatives of gem-bisphosphonates exhibit various biological activities. We have found that thiazolium substituted bisphosphonic acids can be obtained by two-step synthesis from amino-bisphosphonates (I). Reaction of (I) with isothiocyanates in alkohol in the presence of triethylamine led to corresponding thioureas (II) obtained as natrium or triethylamonium salts [1]. Further treatment of (II) with α-bromoketones give aminothiazoles (III) with a good yield. As a rule only less hindered nitrogen atom is involved into the cyclization with formation of one from two of possible isomers.



Obtained thiazoliumalkylidene-1,1-bisphosphonic acids are colourless high-melting substances easily convertable in water soluble (if R'=Me) Na salts.

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