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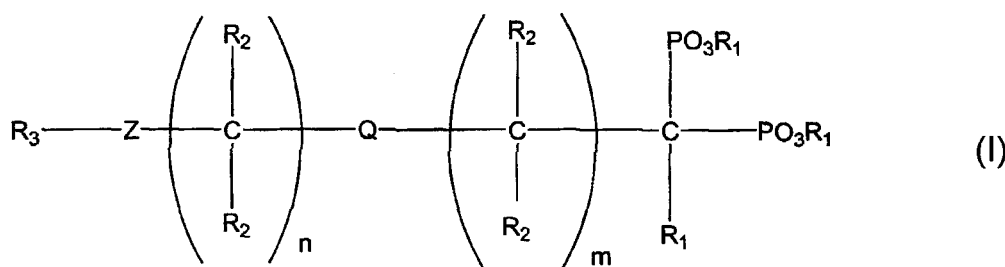
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(54) Title: **PROCESS FOR MAKING GEMINAL BISPHTHOSPHONATES**



(57) Abstract: The present invention relates to a novel process for making geminal bisphosphonates. The process provides for bisphosphorylation using phosphorus trihalide, phosphorous acid as a reactant/solvent, and a base as an acid acceptor/solvent. The present invention is directed to a process for making geminal bisphosphonates of the general formula (I), wherein Q is oxygen, -NR₄-, sulfur, selenium, or a single bond; m+n is an integer from 0 to about 5, Z is a ring selected from the group consisting of pyridine, pyridazine, pyrimidine, and pyrazine; R₁ is hydrogen, substituted or unsubstituted amino, amido, hydroxy, alkoxy, halogen, carboxylate, substituted or unsubstituted alkyl (saturated or unsaturated) having from 1 to about 6 carbon atoms, substituted or unsubstituted aryl, or substituted or unsubstituted benzyl; each R₂ is independently, hydrogen, or substituted or unsubstituted alkyl (saturated or unsaturated) having from 1 to about 4 carbon atoms; R₃ is one or more substituents selected from the group consisting of hydrogen, substituted or unsubstituted alkyl (saturated or unsaturated) having from 1 to about 6 carbon atoms, substituted and unsubstituted aryl, substituted and unsubstituted benzyl, hydroxy, halogen, carbonyl, alkoxy, nitro, amido, amino, substituted amino, carboxylate, and combinations thereof; R₄ is hydrogen, substituted alkyl (saturated or unsaturated) having from 1 to about 4 carbon atoms, or acyl.