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Choline esterase inhibitors and synthetic oxalic acid receptors based on calix[4]arene derivatives

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Abstract

New reversible butyrylcholine esterase inhibitors based on calix[4]arene derivatives were suggested. A series of new distally disubstituted calix[4]arenes were prepared in 60-80% yields. Some of these compounds showed properties of reversible choline esterase effectors, activating it at low concentrations and inhibiting at high concentrations. The macrocycles prepared were tested in extraction of d,l-tartaric, glycolic, d,l-mandelic, d,l-glutamic, malonic, oxalic, and succinic acids and of sodium acetate. Oxalic acid is efficiently transferred through a liquid impregnated membrane under the action of calix[4]arenes with nitrogen-containing substituents. ©2005 Pleiades Publishing, Inc.

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