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(54) Title: PIPERAZINE SALT AND A PROCESS FOR THE PREPARATION THEREOF

(57) Abstract: The invention relates to novel trans N-{4-{2-[4-(2,3-dichlorophenyl)-piperazine-1-yl]-ethyl}-cyclohexylamine dihydrochloride monohydrate and a process for the preparation of the trans N-{4-{2-[4-(2,3-dichlorophenyl)-piperazine-1-yl]-ethyl}-cyclohexylamine dihydrochloride monohydrate, said process comprising the steps a) reacting trans 2-{1-[4-(N-tert-butoxycarbonyl)amino]-cyclohexyl}-acetic acid ester with sodium borohydride and aluminium trichloride to give trans 2-{1-[4-(N-tert-butoxycarbonyl)amino]-cyclohexyl}-ethanol; b) reacting trans 2-{1-[4-(N-tert-butoxycarbonyl)amino]-cyclohexyl}-ethanol obtained with methanesulfonic acid chloride in the presence of an acid binding agent to give trans 2-{1-[4-(N-tert-butoxycarbonyl)amino]-cyclohexyl}-ethyl methanesulfonate; c) reacting trans 2-{1-[4-(N-tert-butoxycarbonyl)amino]-cyclohexyl}-ethyl methanesulfonate obtained with 2,3-dichlorophenyl-piperazine in the presence of an acid binding agent to give trans 2-{1-[4-(N-tert-butoxycarbonyl)amino]-cyclohexyl}-carbamic acid tert-butylester; d) heating trans 2-{1-[4-(N-tert-butoxycarbonyl)amino]-cyclohexyl}-carbamic acid tert-butylester obtained to a temperature between 40-100°C in a mixture of aqueous hydrochloric acid/methanol to give trans N-{4-{2-[4-(2,3-dichlorophenyl)piperazine-1-yl]-ethyl}-cyclohexylamine dihydrochloride monohydrate.

