PPP 2

Primena taktičke kombinacije organokatalizovane aldolne reakcije i reduktivnog aminovanja u sintezi iminošećera značajnih za medicinu

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Iminošećeri su klasa alkaloida koja je privukla pažnju naučne zajednice zbog svoje interesante i obećavajuće biološke aktivnosti. Ova jedinjenja pokazuju antiviralnu, antidijabetsku i antitumornu aktivnost, što ukazuje na njihov visok terapeutski potencijal za lečenje različitih bolesti. Nekoliko biološki aktvinih iminošećera je enantioselektivno sintetisano primenom organokatalitičke aldolne reakcije i reduktivnog aminovanja kao ključnih koraka (svainsonin, 1-deoksinodžirimicin, 4-*epi*-fagomin, 2,5-dideoksi-2,5-imino-D-altritol i aza-galakto-fagomin). Ova taktička kombinacija reakcija omogućava efikasno gradjenje optički čistih heterocikala, sa tri konsekutivna stereocentra definisane apsolutne stereohemije.

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Application of tactical combination of organocatalytic aldol reaction and reductive amination in the synthesis of medicinally important iminosugars

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Iminosugars are a class of alkaloids that has attracted considerable attention from the scientific community, due to their interesting and promising biological activity. Since these compounds display antiviral, antidiabetic and anticancer activity, they have therapeutic potential for treatment of various diseases. Several biologically active iminosugars were enantioselectively synthesized utilizing a sequence of organocatalytic aldol reaction and reductive amination as key steps (swainsonine, 1-deoxygalactonojirimycin. 4-*epi*-fagomine, 2,5-dideoxy-2,5-imino-D-altritol and aza-galacto-fagomine). This tactical combination of reactions allows for an expedient entry into optically pure heterocycles with three consecutive stereocenters of defined absolute stereochemistry.

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