

Reactivity of C4-indolyl substituted 1,4-dihydropyridines toward superoxide anion (O_2^-) in dimethylsulfoxide

Salazar, Ricardo

Navarrete-Encina, P. A.

Squella, J. A.

Camargo, C.

Núñez-Vergara, Luis J.

Reactivity of two new C4-indolyl substituted 1,4-dihydropyridines (1,4-DHPs) toward superoxide anion (O_2^-) in dimethylsulfoxide (DMSO) is reported. Reactivity was followed by electrochemical and spectroscopic techniques. Gas chromatography-mass spectrometry (GC-MS) was used to identify the final products of the reaction. C4 indolyl-substituted-1,4-DHPs reacted toward O_2^- at significant rates, according to the calculated kinetic rate constants. Results are compared with 4-phenyl-DHP and the commercial 1,4-DHPs, nimodipine, nisoldipine, and amlodipine. Indolyl-substituted 1,4-DHPs were more reactive than the commercial derivatives. The direct participation of proton of the 1-position of the secondary amine in the quenching of O_2^- was demonstrated. © 2008 John Wiley & Sons, Ltd.