Keywords

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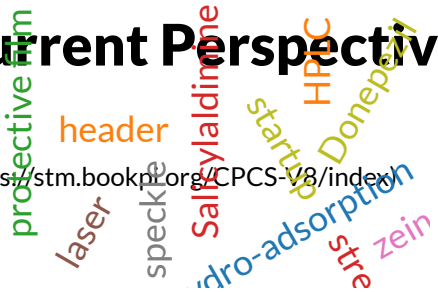

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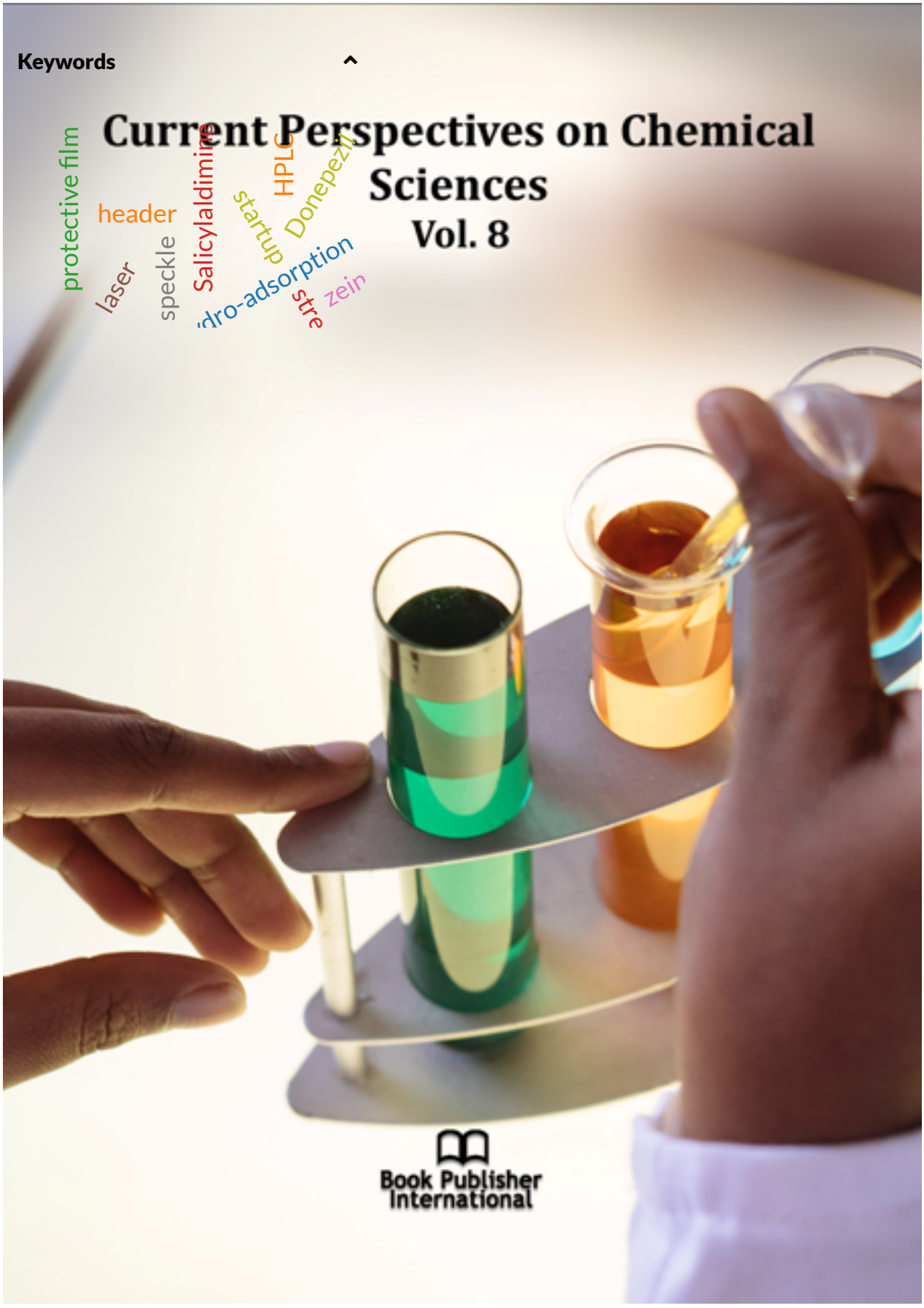

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Experimental and Theoretical Investigations of Some Tridentate

Substituted Salicylaldimines

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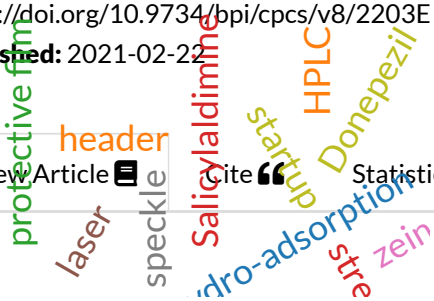

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Abstract

Five substituted tridentate salicylaldimines, (E)-2-((2-hydroxybenzylidene)amino)phenol, (E)-2-(((2-hydroxyphenyl)imino)methyl)-4-nitrophenol, (E)-4-chloro-2-(((2-hydroxyphenyl)imino)methyl)phenol, (E)-2-(((2-hydroxyphenyl)imino)methyl)-4-methoxyphenol, (E)-4-bromo-2-(((2-hydroxyphenyl)imino) methyl)-6-methoxyphenol were synthesized and characterized by elemental analysis, IR, UV and NMR (^{1}H and ^{13}C). Moreover, theoretical calculations using density functional theory were performed on the optimized structures of the salicylaldimines to augment the experimental data. The antibacterial potentials of the compounds were evaluated by agar-well diffusion method and the total antioxidant capacities determined by phosphomolybdenum assay. The result showed that the methoxy-substituted compound exhibited the highest antibacterial and antioxidant activities while the nitro-substituted compound exhibited the least activities. This implies that the electron donating group on the compound increases its antibacterial and antioxidant activities.

Keywords: Salicylaldimine; antioxidant; antibacterial; substituent