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Spectroscopic Determination of Functionalized Active Principles from Coleus aromaticus Benth Leaf Extract Using Ionic Liquids

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Abstract : Green chemistry for plant extraction of active principles is the main interest of many researchers concerned with climate change. While classical organic solvents are detrimental to our environment, greener alternatives to ionic liquids are very promising for sustainable organic chemistry. This study focused on the determination of functional groups observed in the main constituents from the ionic liquid extracts of Coleus aromaticus Benth leaves using FT-IR Spectroscopy. Moreover, this research aimed to determine the best ionic liquid that can separate functionalized plant constituents from the leaves Coleus aromaticus Benth using Fourier Transform Infrared Spectroscopy. Coleus aromaticus Benth leaf extract in different ionic liquids, elucidated pharmacologically important functional groups present in major constituents of the plant, namely, rosmarinic acid, caffeic acid and chlorogenic acid. In connection to distinctive appearance of functional groups in the spectrum and highest % transmittance, potassium chloride-glycerol is the best ionic liquid for green extraction.

Keywords : chlorogenic acid, coleus aromaticus, ionic liquid, rosmarinic acid
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