Available online at **www.joac.info**

ISSN: 2278-1862

Journal of Applicable Chemistry

2022, 11 (4): 567-579

(International Peer Reviewed Journal)

Chemical synthesis, Spectral Characterization, and Biological Potency Evaluation of imine-based Compounds

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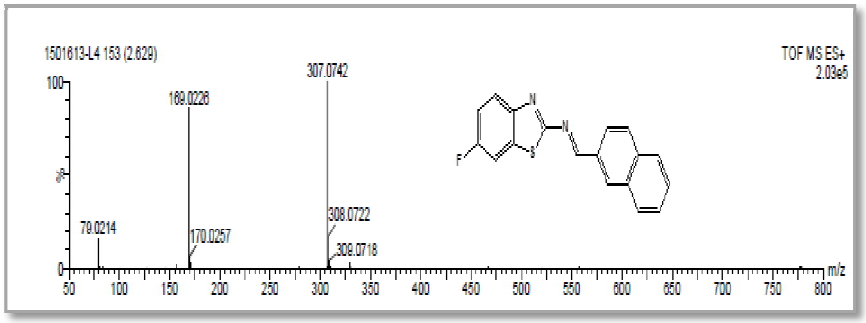
Accepted on 15th July, 2022

ABSTRACT

The facile, conventional and green syntheses of a series of fluorobenzothiazole derived imine based compounds such as 4-fluoro-2-{(E)-[(6-fluoro-1,benzothiazol-2-yl) imino] methyl}phenol (SL_1), (E)-1-(2H-1,3-benzodioxol-5-yl)-N-(6-fluoro-1,3-benzothiazol-2-yl) methanimine (SL_2) and (E)-N-(6-fluoro-1,3-benzothiazol-2-yl)-1-(naphthalen-1-yl) methanimine (SL_3) have been explored in this research. The synthesized compounds have primarily been characterized by physical methods (melting point, TLC and elemental analysis), and structurally elucidated by spectral studies. Also, these compounds were tested for their antimicrobial (disc diffusion method), antioxidant ($DPPH^{\cdot}$) and anti-inflammatory (by carrageen an edema model) potentialities.

Graphical Abstract



ESI-MS spectra of imine bases SL_3.

Keywords: Imine-based compounds, Spectral studies, Anti-inflammatory, Antimicrobial.