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(57) Abstract :
 This invention presents a novel furan derivative with antioxidant properties was synthesized through a reaction between (E)-1-(furan-2-yl)-3-(4-hydroxy-3-methoxyphenyl) prop-2-en-1-one and 2-chloro-N-(3-methoxyphenyl) acetamide, using anhydrous potassium carbonate and potassium iodide in dry acetone. The mixture was refluxed for 22 hours, precipitated, filtered, and recrystallized in ethanol, yielding a compound with approximately 51.58% efficiency. Structural confirmation was achieved through IR and NMR spectroscopy, revealing characteristic peaks for aromatic C=C, C=O, and methoxy groups. Computational analysis via Swiss ADME indicated high gastrointestinal absorption and drug-likeness, aligning with Lipinski's rule of five. Antioxidant efficacy was validated using a DPPH radical scavenging assay, where the compound showed 39.10% inhibition at 50 µg/ml and 70.01% inhibition at 250 µg/ml, indicating moderate antioxidant activity compared to ascorbic acid. This furan derivative demonstrates potential for applications targeting oxidative stress-related conditions.

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