

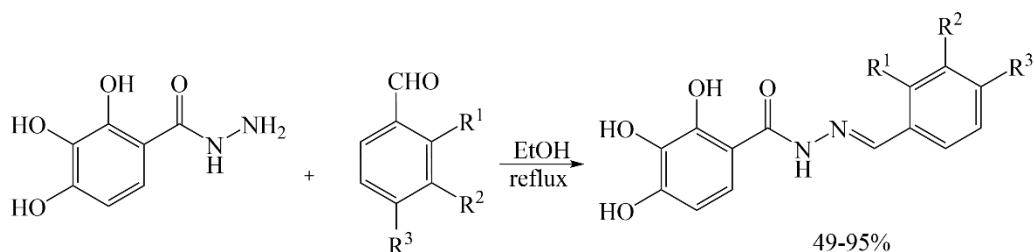
Synthesis, Characterization, and Antioxidant Activity of the Selected Phenolic Hydrazone Derivatives

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Hydrazone core represents a valuable pharmacophore in medicinal chemistry and drug design.¹ The ease of synthetic transformations and their tunability granted hydrazone-type compounds diverse activities of biological importance.² In this work, the synthesis of five novel phenolic hydrazones was performed in the reactions of 2,3,4-trihydroxybenzohydrazide with various aromatic aldehydes.



The obtained solid products were filtrated, dried, and characterized by NMR, IR, and UV-Vis spectra, melting points, and elemental analysis. Also, the antioxidant capacity of the synthesized compounds was assessed using the 2,2-diphenyl-1-picrylhydrazyl (DPPH) method. All analogs exhibited excellent inhibition potency of the DPPH radical with IC₅₀ values in the range of 2.5–9.8 μM. The best radical inactivation potency exhibited compound bearing vanillin moiety, whereas the highest IC₅₀ value was determined for the R³-NO₂ derivative. The obtained results highlight the importance of the design and synthesis of novel phenolic hydrazones with antioxidant properties.

Keywords: phenolics, phenolic hydrazones, antioxidant activity, DPPH

References

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