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UNCOVERING BIOACTIVE AGENTS FROM AMAZONIAN MYRTACEAE WITH ANTIDIABETIC AND ANTIVIRAL ACTIONS: A 15-YEAR RESEARCH OVERVIEW

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The Amazon biome, which covers nearly half of Brazil's territory and represents 25 % of the world's remaining forests, has long been the focus of multidisciplinary research. Biologists, pharmacologists, chemists, and other specialists have identified metabolites with significant potential for the pharmaceutical, agrochemical, cosmetic, and food industries. However, achieving the sustainable use of this biodiversity has posed a challenge for Brazilian governments over the last 60 years. Production, quality control, and logistics involving natural resources have been the main bottlenecks hindering the region's sustainable development. In this context, the NEQUIMA (Núcleo de Estudos Químicos de Micromoléculas da Amazônia) research group, in partnership with the UFAM NMR Laboratory and partner institutions, is dedicated to identifying compounds with antiglycation, antiviral, and nutraceutical potential in Amazonian matrices, employing NMR and MS as its principal analytical tools, assisted by ECD and computational methods for the unequivocal determination of organic molecules of interest. Furthermore, NEQUIMA develops encapsulated bioproducts and NMR-based analytical methods to quantify active ingredients, while also contributing to the discovery of new antiglycation and antiviral compounds. Through these activities, NEQUIMA contributes to the training of human resources (undergraduate, master's, and doctoral students in Chemistry), to the publication of scientific articles, and to the valorization and sustainable development of the Amazon biome.

Keywords: *Amazon, ^{1}H NMR-based metabolomics, qNMR, antiglycan, antiviral, chemometrics*

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