PHYTOCHEMICAL, ANTIOXIDANT AND DNA DAMAGE PREVENTION ANALYSIS OF SELECTED INDIAN PLANTS

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ABSTRACT

This study was undertaken to evaluate the bioactive compounds (flavonoids, terpenoids, alkaloids, etc.) and their antioxidant activity in aqueous extracts of *Eucalyptus globulus*, *Ferula asafoetida*, *Hyoscyamus niger*, *Matricaria chamomilla*, *Styrax benzoin* and *Sesamum indicum*. The study investigates the phytochemical diversity and antioxidant potential of these plants, aiming to identify their potential for health preservation and restoration. The extracts were analyzed for flavonoid content, total phenolics, reducing sugars and protein. According to the DPPH assay, *M. chamomilla* demonstrated the strongest antioxidant activity, indicating significant bioactive potential. The plants contain a range of bioactive molecules with free radical scavenging properties, particularly *M. chamomilla*, which may have applications in the food and pharmaceutical sectors for health benefits.