A Comprehensive Review on AI-Driven Phytochemical Discovery and Insights in Herbal Research

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Abstract: *HerbIntel is an AI-powered platform created to transform the way we find and decipher plant-derived medical chemistry. Consequently, Herbintel uses next-gen data-driven method and AI algorithms to provide a comprehensive chemical composition of molecular structures found in plants. Today, HerbIntel integrates drug informatics with molecular network analysis to give us an inside view of plant-based compounds` electron density fields. This makes it possible to predict relevant compounds pharmacophores which can potentially be used in finding drugs. HerbIntel's project is mainly focused on building a complete phytochemical database and using machine learning models to forecast bioactivity or pharmaceutical attributes for the same. Even up until now, no one has collected together such an entire list of those substances, But really, what will be of interest to experts today. Namely for scientists trying to discover new drugs- that means they are lost without maps as to which places are available to house their structures and for businesses involved in health care products.*

Keywords: Phytochemical Database, AI in Drug Discovery, Molecular Network Analysis, Bioactivity Prediction