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(57) Abstract :

ABSTRACT ARTIFICIAL INTELLIGENCE GUIDED PHYTOCHEMICAL EXTRACTION DEVICE WITH PROGRAMMABLE SOXHLET CONTROL The present invention discloses an artificial intelligence guided phytochemical extraction device with programmable Soxhlet control. The said device comprises a housing defining an extraction enclosure. The soxhlet extraction assembly disposed within the housing and comprising a solvent reservoir, an extraction chamber configured to receive plant material, a condenser, and a heating unit. The one or more sensors operatively coupled to the Soxhlet extraction assembly and configured to monitor extraction parameters including temperature, solvent level, extraction cycle count, and extraction duration. The control unit comprising a processor and a memory storing executable instructions. The artificial intelligence module executed by the processor and configured to analyze sensor data and extraction parameters. The programmable control interface operatively coupled to the control unit, wherein the artificial intelligence module dynamically controls the Soxhlet extraction assembly by automatically adjusting one or more extraction parameters during operation to optimize phytochemical yield and extraction efficiency. Fig 1

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