

Volatile Biomarkers

Non-Invasive Diagnosis in Physiology and Medicine

Edited by
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Volatile Biomarkers: Non-Invasive Diagnosis in Physiology and Medicine provides a comprehensive review of the use of volatile organic compounds (VOCs) generated through normal physiology or pathophysiology that are present as biomarkers in exhaled breath, other bodily excretions, and emitted via skin. These volatile metabolites carry valuable information on the metabolic status or disease activity in healthy people and patients alike. Their role in clinical diagnosis, therapy, and safety is an emerging multidisciplinary area of study that shows great promise for non-invasive and low-cost point-of-care monitoring of many common diseases such as cancer, respiratory and gastrointestinal dysfunction, nutritional intolerance and metabolic disorders, including diabetes.

THIS BOOK:

- Gives first-hand accounts of discoveries and the potential significance of VOC metabolites by the world's foremost scientists and clinicians in the field and synthesizes the growing literature in this area.
- Features the latest scientific research and technical breakthroughs in the diagnostic and therapeutic aspects of VOCs.
- Includes information on the latest instrumentation and technology such as proton transfer reaction- and selected ion flow tube-mass spectrometry (PTR-MS and SIFT-MS) and electronic noses, and provides examples of their potential significance in clinical diagnosis.
- Includes case presentations documenting the role of volatile biomarkers in many areas of human health and safety.
- Includes suggested models for standardizing sample collection and highlights new ways of identifying and quantifying VOCs in exhaled breath.
- Reviews endogenous volatiles in exhaled breath and those emitted by other biological media that are potential biomarkers for diseases such as cancer and diabetes.



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