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# Technical problems and practical operations in plant metabolomics

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### Abstract:

A metabolomics experiment consists of several complicated technical elements with each step ('cultivation of organisms,' 'sampling,' 'sample preparation,' 'analysis,' 'data conversion,' and 'informatics') potentially giving rise to experimental error. In order to perform metabolomics studies, it is necessary to understand the method limitations in detail and recognize possible problems at each step. Here, we review a number of technical problems associated with plant metabolomics and describe some practical knowledge for experimental design.

### **Keywords:**

metabolomics, metabolome, metabolite profiling, metabolic fingerprinting, mass spectrometry, chemometrics

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