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## Metabolite profiling

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In the November *Nature Biotechnology* Fiehn *et al.* offer an **alternative** to the profiling of messenger RNA and protein levels. They use gas chromatography coupled to mass spectrometry (GC/MS) to assay the relative levels of 326 small compounds from a plant leaf extract (*Nat Biotech* 2000, **18**:1157-1161). A simple methanol extraction is followed by derivitization to increase metabolite stability and volatility. Approximately half of the chromatographed compounds can be identified based on retention times and mass spectra; these results can be viewed on the accompanying [website](#). Biological variability (of approximately 40%) is in clear excess of variability inherent to the method (about 8%). Principal component analysis allows metabolite profiles from plants of a particular genetic background or with a particular mutation to be clustered. Mutation of a single gene causes many changes, most of them unexplained. Metabolite profiles may be useful to address public concerns about the safety of genetically modified food.

## References

1. *Nature Biotechnology*, [<http://www.nature.com/nbt/>]
2. Metabolic profiling: a Rosetta Stone for genomics?
3. Metabolite Mass Spectra Library, [<http://www.mpimp-golm.mpg.de/mms-library/index-e.html>]