Cover Picture

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The cover picture shows a series of ^{19}F NMR spectra taken every hour during the monitoring of a time-course experiment after addition of 5′-fluoro-5′-deoxyadenosine (5′-FDA) to a cell-free extract of *Streptomyces cattleya.* This bacterium has the unusual capacity to biosynthesise organofluorine compounds from inorganic fluoride. The ^{19}F NMR spectra illustrate that 5′-FDA is a true intermediate in the biosynthesis of fluoroacetate and 4-fluorothreonine. Other intermediates such as fluoroacetaldehyde are also observed for the first time. In a separate experiment, inorganic fluoride was converted into fluoroacetate, thus indicating that all of the enzymes involved in the fluoroacetate biosynthesis pathway are active in the cell-free extract. These experiments report the first cell-free biotransformations of inorganic fluoride into fluoroacetate, the most ubiquitous organic fluorine natural product, and pave the way for a biotechnological approach to organofluorine synthesis. Full details are described by O'Hagan and co-workers on p. 3913 ff.