Synthesis of fluorine containing analogues of natural products

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Synthesis / method / protocol: Naturally occurring alkaloids can be useful molecules in drug development. In our synthetic work, we plan to implement modifications of the isoquinoline alkaloids with fluorine containing functional groups (eg, F, CF₃, CH₂CF₃).

Scientific Goal: It is known that the replacement of a C-H or C=O bond with a C-F bond in biologically active compounds frequently introduce beneficial properties. Thus, we plan the synthesis of fluorinated analogues of biologically active natural products.

Result: Synthesis of 4 norbelladine analogs was performed. These can be converted to berberine derivatives by cyclization. We prepared polysubstituted benzene derivatives, which are the last intermediates of lobaric acid.