

# Scientific Understanding and Synthetic Design

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## Abstract

One of the indisputable signs of the progress made in organic chemistry over the last two hundred years is the increased ability of chemists to manipulate, control and design chemical reactions. The technological expertise manifest in contemporary synthetic organic chemistry is, at least in part, due to developments in the theory of organic chemistry. By appealing to a notable chemist's attempts to articulate and codify the heuristics of synthetic design, this paper investigates how understanding theoretical organic chemistry facilitates progress in synthetic organic chemistry. The picture that emerges of how the applications of organic chemistry are grounded in its theory is contrasted with both standard and some more contemporary philosophical accounts of the applications of science.

**Keywords:** organic chemistry, application, technology, synthesis

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