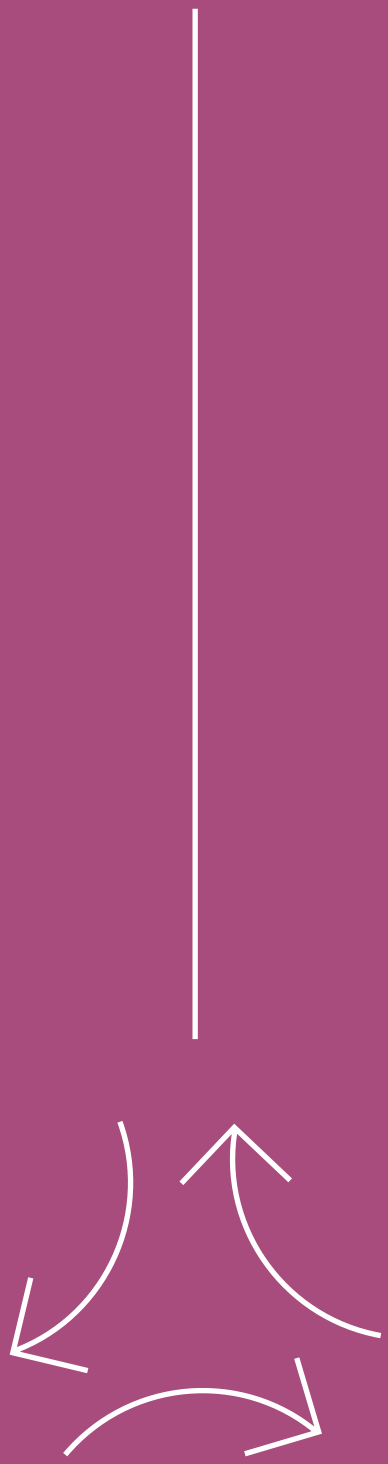
# PREFACE



# PREFACE

In mid-March 2022, I received an unexpected invitation from Professor Carsten Reinhardt to contribute a scientific autobiography to the Lives in Chemistry book series, a project steered by the History of Chemistry Section of the German Chemical Society. I had recently closed my research laboratory and having fewer other commitments, I began to think deeply about this project. Two concerns quickly came to mind. What would be unique in my story? Would I be comfortable writing a historical account in which the contributions of only a few of my former coworkers could be discussed?

In pondering these questions, I realized that my path had several uncommon aspects. There was nothing in my family background or early education that indicated I would fall in love with chemistry and pursue a university academic career. My interest in chemistry came about by chance, stimulated by an undergraduate advisor and teacher, and my academic success made possible by two influential mentors. I began my teaching career at what at the time was the small, recently established, Irvine campus of the University of California, where I eventually spent my entire career. As graduate students were not plentiful when I began at UC Irvine, I spent essentially full time for my first 5–6 years working in my laboratory, something nearly unheard of today in organic chemistry at a U.S. research university, and rare even in my day.

My hope is that this account will communicate how discoveries come about, and the unexpected turns that can accompany a research and teaching career in organic chemistry. My life's research was not directed by one grand plan, but evolved from discoveries — many unexpected — made in the laboratory. Science is a human endeavor, and I want to share the stimulation, insight, and joy that young coworkers bring to research conducted in an academic setting. Although I will discuss the research of only a small fraction of my former coworkers, the research success of my laboratory was made possible by contributions of hundreds of my coworkers.

During my scientific lifetime, synthetic organic chemistry played a leading role in the evolution of organic chemistry. Relating my research story will provide some insight into the themes that influenced the development of synthetic organic chemistry during the last quarter of the 20$^{th}$ century and the first quarter of the 21$^{th}$. Whereas many of the foundational classical reactions of organic chemistry — Diels-Alder reaction, Claisen rearrangement, etc. — were discovered by chance, the invention and development of new chemical transformations powered advances in synthetic organic chemistry during my era. Organometallic reagents and catalysts played a major role, with the number of metals routinely used in organic synthesis increasing substantially. Although catalytic reactions had been foundational in the synthesis of organic polymers for nearly a century, they became commonly employed for

making carbon-carbon bonds in the synthesis of "small" organic molecules only during my scientific lifetime. The total synthesis of structurally elaborate natural products also played a prominent role in advances of synthetic organic chemistry during my era, and the pivotal role these synthesis targets played in stimulating discoveries in my laboratory will be highlighted.