

Houk-Jung Organic Colloquium



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“Chemical Synthesis and Study of Noncanonical Membrane Lipids”

Lipid membranes are universal features of living systems, constituting inner and outer barriers of a biological construct and maintaining non-equilibrium states necessary for life. Evolution has produced a fascinating array of lipid structures that dictate the function of biological membranes, and organisms devote considerable energy to the synthesis and maintenance of such compositions. Our group has been studying some of the most exotic lipids observed to date, representing a radical departure from the canonical hydrocarbons that dominate almost all prokaryotic and eukaryotic membranes. While minute amounts have been obtainable from natural sources for structural characterization, pure quantities of such lipids for function-related studies have not. Our work has established strategies for accessing different classes of noncanonical membrane lipids. Success in this vein has resulted in controllable access to single enantiomers of amphiphilic molecules with routes that are flexible enough to allow for the additional production of non-natural analogues.

Thursday, May 27, 2021 | 4:00 PM | Zoom