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## Synthetic study to icetexane natural products by using transition-metal catalysis

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Numerous [m,7,n]-tricyclic structural motifs are found in a variety of icetexane natural products, many of which have a broad spectrum of biological activities. Among various strategies for the construction of seven membered carbocycles, transition metals are utilized as catalysts because of their inherent potential for causing a rapid increase in skeletal complexity. Conjugated Enynals and Enynones serve versatile substrates for the synthesis of such [m,7,n]-tricyclic skeletons *via* metal catalyzed reactions. They are known to form metal-pyrylium intermediates with alynophilic metals such as Au, Rh, or Pt and the resultant metal-pyrylium intermediates are also known to undergo cycloaddition with an alkene inter and/or intramolecularly (Scheme 1). During the course of our scientific endeavors leading to a general and modular entry to polycyles, we have reported a highly unique behavior of metal-carbene complexes A, formed *via* [3+2] cycloaddition between metal pyrylium species and a double bond, to polycycles (2-6) depending on the type of substrates, catalysts and reaction conditions.This result have been applied to the total synthesis of icetexanes and abietanes and will be presented in Euro-Chemistry 2019.


**Scheme 1. Metal-catalyzed cyclization of 2-enynylbenzaldehydes 1**

## Biography

Chang Ho Oh received his BS degree from Seoul National University and his MS degree from KAIST, Korea in 1982 and 1984, respectively. He obtained his PhD in 1992 under guidance of Professor Gary H Posner. After a year of Post-Doctoral study with Professor Barry M Trost at Stanford University, he became a full-time faculty member of Inje University, Korea. In September, 1997, he moved to Hanyang University, where he is currently a Professor at the Department of Chemistry. His area of research interest includes development of new and applicable synthetic methodologies using transition-metal catalysis and synthesis of natural products.

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