

演題：**Vinyl cation Intermediates Tamed by
Weakly Coordinating Anions:
From Mechanistic Curiosity to
Synthetic Tools**



講師：**Prof. Christophe Bour**
Institut de Chimie Moléculaire et
des Matériaux d'Orsay,
Université Paris-Saclay, Orsay, France

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場所：ICReDD棟 4階 ICReDDホールA

要旨：

Vinyl cations, long overlooked due to their supposed uncontrollable nature, have recently become the focus of renewed research into their physical and chemical properties. This has led to exciting new applications in homogeneous catalysis. The Mayr group has played a pivotal role in dispelling the myths surrounding these intermediates, revealing that their stability is comparable to that of tertiary carbocations. Nevertheless, due to the substantial energy barrier associated with $sp \leftarrow sp^2$ rehybridization, vinyl cations tend to be sluggish electrophiles.

Building on this breakthrough, several research groups have addressed this electrophilicity issue and have successfully harnessed vinyl cations to develop novel reactions. Our group, in particular, has devised a gentle and effective method for the bimolecular vinylation of arenes. This involves employing a lithium salt as a catalyst to activate vinyl triflates and facilitate the formation of a vinyl carbocation. Furthermore, we have extended this strategy to conduct substitution reactions between vinyl cations and various nucleophiles, both in inter- and intramolecular settings.

連絡先：工学研究院応用化学部門 伊藤 肇（内線：6561）