



演 題 : **Pushing the Limits of N-heterocyclic Carbenes**

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日 時 : 2019 年 6 月 7 日 (金) 16:30~18:00

場 所 : 工学部 材料・化学系棟 MC030 教室



要旨 : N-Heterocyclic Carbenes (NHCs) have been intensively explored for stabilizing unstable species such as radicals and zerovalent nonmetal species, and for activating small molecules such as CO, H₂, NH₃, N₂O, NO, etc. Such a capability of NHCs can be attributed to their strong donor characters and steric tunability that lead to the remarkable reactivity. Recently, we reported N-heterocyclic carbene nitric oxide (NHCNO) radicals, which can be also considered as iminoxyl radicals. We also found that triazenyl cations stabilized by NHC form the corresponding triazenyl radicals upon the treatment of elemental potassium as a reductant. With the novel reactivity of NHCs, we have also been exploring porous metal-organic frameworks (MOFs) and cages (MOCs) with various N-heterocyclic carbene precursors, imidazolium salts, and metal ions due to their potential applications such as catalysis, gas storage, molecular separations, etc.

協賛 :  公益社団法人
有機合成化学協会
SSOCJ - The Society of Synthetic Organic Chemistry, Japan
有機合成化学協会北海道支部

本講演は、大学院総合化学院『化学研究先端講義（修士課程選択科目）／
総合化学特別研究第二（博士後期課程選択科目）』の一部として認定されています。

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