

講演会のお知らせ

講演題名: Silanes and silicates: From radical precursors to bond activation

講師: Vincent Corcé 博士 (Collège de France, France)

日時: 10月29日(木)15:30

場所: 南7号館7階セミナー室

概要: The chemistry of organosilicon derivatives is extremely diverse and has been a source of inspiration for chemists for decades. Compared with carbon, silicon offers unique properties, notably its ability to form hypervalent species, its strong affinity for fluoride and alkoxy anions. The chemistry and reactivity of silanes and silicates derivatives have been known for a long time and are mainly governed by anionic and cationic processes. However, in 1982, Kumada reported the stoichiometric Cu(II) oxidation of organopentafluorosilicates providing organic radicals via a single electron transfer (SET) process. This seminal work paved the way for the use of these electron-rich penta- and hexavalent silicon species to generate alkyl radicals upon oxidative SET conditions. In this lecture, two structures developed in our laboratory will be discussed, namely organo bis(catecholato)silicates and organo Martin's spiro-silicates compounds. Their behavior in photo-oxidative conditions will be presented, alongside with their synthetic applications. As a perspective, the recent development in our group on bond activation with silicon derivative will be introduced.

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参加をお待ちしています。

狩野

Bio sketch:

Vincent Corcé obtained his PhD from the Université de Nantes in 2012 under the guidance of Prof. David Deniaud and Dr François Gaboriau developing new iron chelator for anti-cancer strategy. After that, he moved to a postdoctoral research fellowship with Prof. Eoin M. Scanlan at the Trinity College of Dublin. He worked on thiol radical cyclization to gain access to thiosugars and thioglycols. In 2014, he joined the research group of Prof. Louis Fensterbank at the Université Pierre et Marie Curie (now Sorbonne Université) and worked on silicates photooxidation and explored their reactivity in radical chemistry and metallaphotoredox cross-coupling reaction. In September 2017, he has been appointed as an associate professor at the Institut Parisien de Chimie Moléculaire (IPCM). His research activity focused on the synthesis and vectorization of new carbon monoxide releasing molecules (CORMs) for therapeutic purposes and the use of CORMs in photo-induced carbonylation reactions. Since January 2025, he joined the research group of Prof. Louis Fensterbank at Collège de France. His research focuses on the development of new Lewis acids for bonds activation.

