

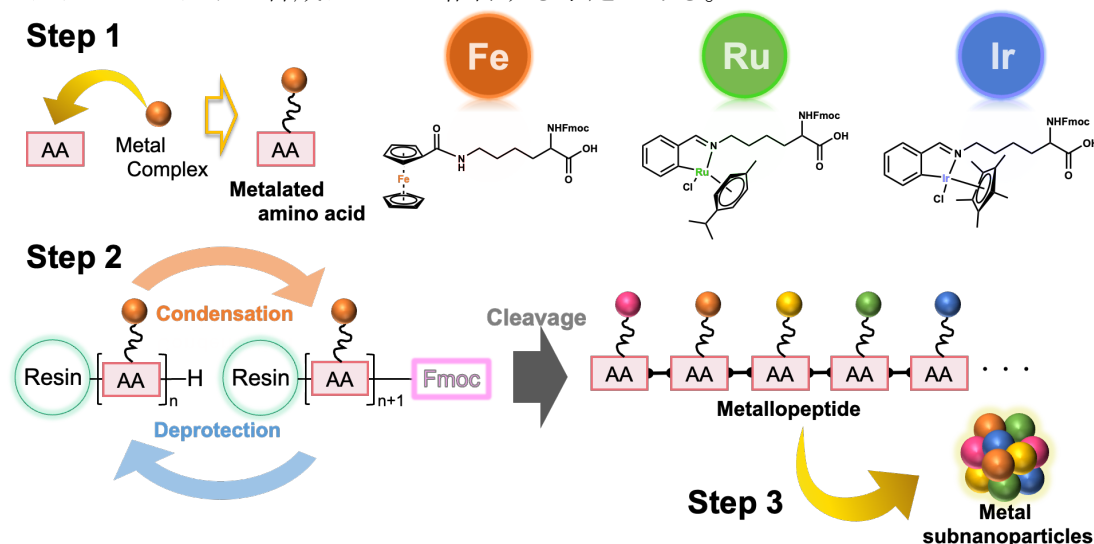
## 金属サブナノ粒子の鋳型となるメタロペプチドの合成

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Synthesis of metallopeptide as template for metal subnanoparticles (<sup>1</sup>Laboratory for chemistry and life science institute of innovative research, *Tokyo Institute of Technology*, <sup>2</sup>School of Materials and Chemical Technology, *Tokyo Institute of Technology*) ○Yusuke Narita,<sup>1</sup> Nanami Antoku,<sup>1</sup> Shogo Saito,<sup>2</sup> Masayoshi Tanaka<sup>2</sup>, Takane Imaoka<sup>1</sup>, Mina Okouchi<sup>2</sup>, Kimihisa Yamamoto<sup>1</sup>

Metal subnanoparticles consisting of a few to several dozen metal atoms have attracted much attention by their super-atomic nature and unique catalytic properties. In this study, we focused on metallopeptides, which carry metal complexes in their side chain as the precursor for mass and on-demand synthesis of such metal subnanoparticles. We synthesized metallopeptides by repeating the condensation of metallated amino acid by Merrifield's solid-phase peptide synthesis. Then, the metallopeptides were converted to corresponding metal subnanoparticles by calcination. We aim to establish this new synthesis method which uses metallopeptide as the template. **(Figure)** In this presentation, we will report the synthesis of 3 elements (Fe, Ir, Ru) of metallated amino acids **(Figure)**, and the synthesis of Fe- and Ir-containing metallopeptides. **Keywords** : Solid-Phase Peptide Synthesis, Metallopeptide, Metalsubnanoparticles

金属原子が数個から数十個からなる金属サブナノ粒子は超原子特性や高い触媒活性が知られている。本研究では、そのオンデマンド大量合成を目指し、前駆体として側鎖に金属錯体が結合したメタロペプチドに着目した。メタル化アミノ酸を固相合成法により縮合させ、メタロペプチドを合成する。その後、焼成することで金属原子を集積させ、金属サブナノ粒子を合成する。このメタロペプチドを鋳型として用いる新規合成法**(Figure)**の確立を狙う。発表ではFe, Ir, Ruの各アミノ酸の合成**(Figure)**、Fe, Irメタロペプチドの合成について報告する予定である。



**(Figure)** Synthesis of metal subnanoparticles by using metallopeptide as template.