

## 四面体ホスフィンオキシド配位子を基盤とした新規配位高分子の合成とその光特性評価

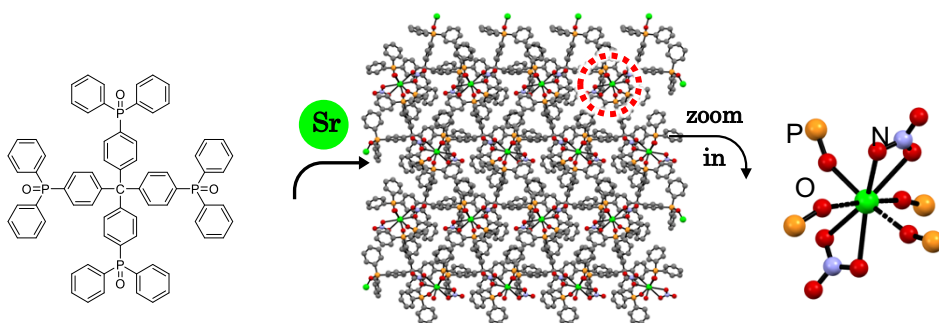
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Photophysical characterization of novel coordination frameworks based on tetrahedral phosphine oxide ligands (<sup>1</sup>*School of Science, Tokyo University of Science*, <sup>2</sup>*School of Science, Tokyo Institute of Technology*) ○Yiying Zhu,<sup>1,2</sup> Pavel Usov,<sup>2</sup> Yuki Wada,<sup>2</sup> Hiroyoshi Ohtsu,<sup>2</sup> Makoto Tadokoro,<sup>1</sup> Masaki Kawano<sup>2</sup>

Coordination networks consisting of metal ions and multidentate bridging ligands attracted a considerable interest as candidates of functional materials with unique physical and chemical properties. Especially, phosphine oxide is known to form highly emissive metal complexes.<sup>[1]</sup> In this study, a tetrahedral ligand decorated with phosphine oxide groups was synthesized<sup>[2]</sup> and reacted with alkaline earth metal salts. We succeeded in obtaining unprecedented Sr-based coordination network. The crystal structure was determined by single crystal X-ray analysis and its photophysical properties was investigated.

**Keywords :** Coordination network; Phosphine oxide; Photophysical properties; Alkaline earth metals; X-ray Structure Analysis

配位高分子は、金属イオンと多座配位子の組み合わせからなる固体材料の一種である。とりわけ特異な金属と配位結合した配位高分子は、通常とは異なる物理的・化学的性質を持つことが予想されるため、新材料として注目を集めている。本研究では、高発光性の金属錯体を形成できるホスフィンオキシド<sup>1)</sup>で修飾した四面体配位子<sup>2)</sup>とアルカリ土類金属塩を用いることで、新規三次元配位高分子を合成した。Sr とホスフィンオキシドの組み合わせは初めてであり、単結晶 X 線回折によって構造を同定し、さらに光化学特性の検討を行った。



- 1) Properties of highly emissive phosphine oxide-based coordination complexes have been reported. P. P. F. da Rosa, Y. Kitagawa, Y. Hasegawa, *Coord. Chem. Rev.* **2020**, 406, 213153
- 2) Tetrahedral phosphine ligand synthesis has been reported. Y. Yang, B. Beele, J. Blümel, *J. Am. Chem. Soc.* **2008**, 130, 3771–3773.