

アルミニウム 2 核 3 重螺旋錯体のねじれ角が光学特性に及ぼす効果

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Effect of torsion angle of Aluminum-based dinuclear triple helical complexes and their photophysical properties

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We have recently reported that a series of dinuclear triple-helix complexes (**ALPHY**) synthesized from pyrrole-based tetradentate ligands with aluminum ions. Although **ALPHY** has circularly polarized luminescence properties and changes in luminescence wavelength due to the substituent modification have been confirmed, the relationship between substituents and changes in the luminescence wavelength has not been clarified.

In this study, we focus on the torsion angle of the aluminum complexes and discuss the relationship between the torsional angle of the complexes and the optical properties by modifications of substituents of the ligands. We have synthesized a new **ALPHY** derivatives and compared the optical properties in detail.

Keywords : Helical complex; Chiroptical chromophore; Torsion angle; Pyrrole; Aluminum

近年我々は、ピロールを含む四座配位子とアルミニウムイオンから 2 核 3 重螺旋錯体 **ALPHY** が合成できることを見出した^[1]。**ALPHY** が円偏光発光特性を有し、置換基修飾による発光波長変化が確認されているが、置換基と発光波長変化の因果関係は明らかにされていない。本研究では錯体のねじれ角に着目し、ねじれ構造が錯体の光学特性に及ぼす効果を追究する。そこで配位子のメチン部位に、既報のものとサイズが異なるエチル基を導入した **Et-ALPHY** 合成し、その光学特性評価を行った(図 1)。

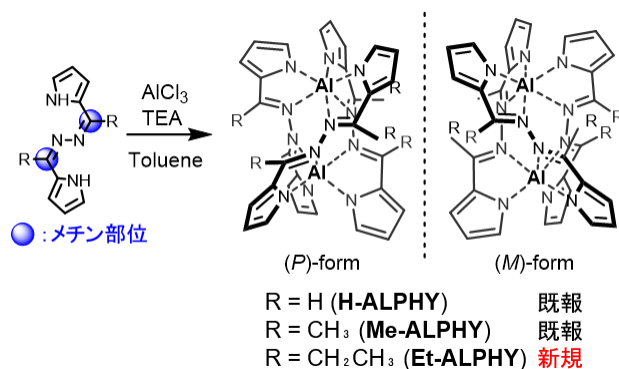


図 1 **ALPHY** の構造

- [1] T. Ono, K. Ishihama, A. Taema, T. Harada, K. Furusho, M. Hasegawa, Y. Nojima, M. Abe, Y. Hisaeda, *Angew. Chem. Int. Ed.* **2020**, in press.
 (doi.org/10.1002/anie.202011450)