

4,5-ベンゾトロポンを配位子とした鉄、ロジウム、およびイリジウム錯体の合成と触媒反応への応用

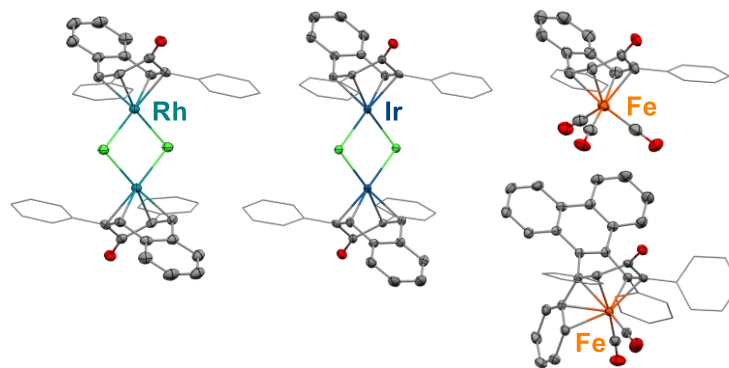
(阪大院工¹) ○児玉 拓也¹・川島 裕貴・Zhirong Deng¹・鳶巣 守¹

Synthesis of 4,5-Benzotroponone π -Complexes of Iron, Rhodium and Iridium and Their Potential Use in Catalytic Reactions (¹*Graduate School of Engineering, Osaka University*) ○Takuya Kodama,¹ Yuki Kawashima,¹ Zhirong Deng,¹ Mamoru Tobisu¹

In the field of organometallic chemistry, the formation of metal complexes with tropones has been the subject of vigorous research, and both σ - and π -complexes with various metals have been reported.¹⁾ Despite the significant advancements that have occurred in the coordination chemistry of tropones, metal complexes of fused tropones have not been reported, except for chromium complexes²⁾ and an iron complex.³⁾ Herein we report the synthesis of iron, rhodium, and iridium π -complexes bearing 4,5-benzotroponone ligands.⁴⁾ A troponone core coordinates to a metal center in a η^4 manner with a tub-form geometry, which was determined by X-ray crystallographic analyses. Catalytic activities of some 4,5-benzotroponone π -complexes are also reported.

Keywords: *Troponone; Metal-Complexes; π -Coordination; Catalytic Activity*

トロポンは種々の金属と σ 型及び π 型錯体を形成することが知られている。¹⁾しかしながら、縮環トロポンに関しては、クロム錯体²⁾及び鉄錯体³⁾の例に限られていた。われわれは種々の4,5-ベンゾトロポン誘導体を配位子とした鉄、ロジウム、およびイリジウム錯体を合成し、X線結晶構造解析により、トロポン部位はタブ型の η^4 型配位様式を取ることを明らかにした。また、4,5-ベンゾトロポン錯体の触媒活性についても併せて報告する。⁴⁾



- (1) Selected examples of troponone complexes, see (a) Weiss, E.; Hubel, W. *Chem. Ber.* **1962**, *95*, 1179; (b) Asao, T.; Kikuchi, Y. *Chem. Lett.* **1972**, *1*, 413–416.
- (2) (a) Borai, M. E.; Guillard, R.; Fournari, P. *J. Organomet. Chem.* **1978**, *148*, 277; (b) Dusauso, Y.; Protas, J. *Acta Cryst.* **1978**, *B34*, 1714–1716.
- (3) Tajiri, A.; Morita, N.; Asao, T.; Hatano, M. *Angew. Chem. Int. Ed.* **1985**, *24*, 329.
- (4) Kodama, T.; Kawashima, Y.; Deng, Z.; Tobisu, M. *ChemRxiv*. Preprint. <https://doi.org/10.26434/chemrxiv.13340219.v1>.