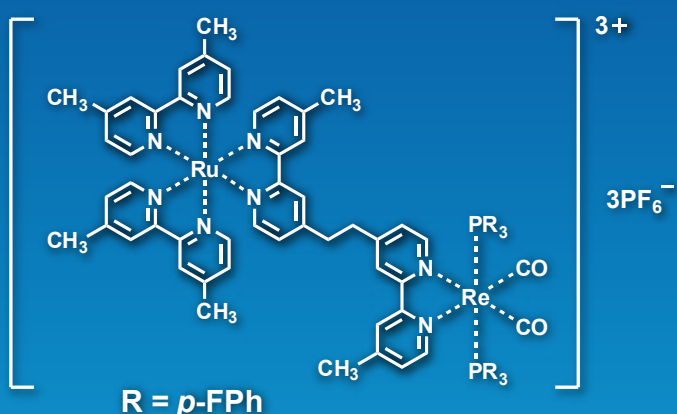
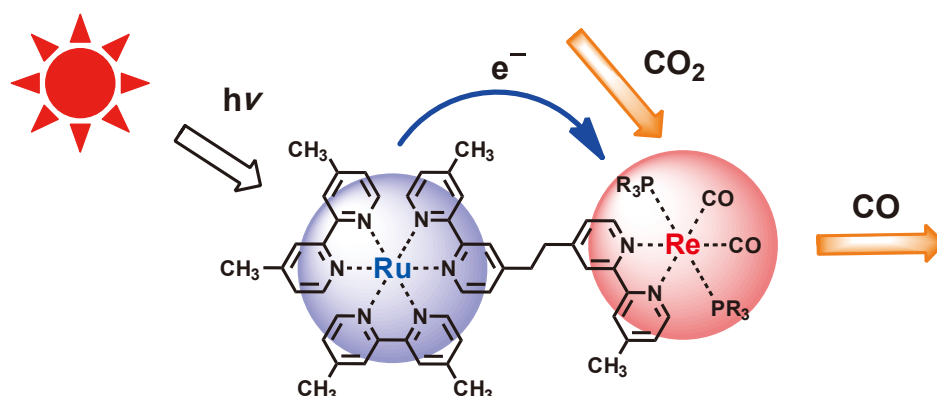


Ru-Re Supramolecular Complex Photocatalyst Capable of Efficiently Reducing CO₂ to CO



Advantages

- Reduces CO₂ to CO in a wide range of visible light
- Supramolecule with a Re(I) complex as a catalyst and a Ru(II) complex as a sensitizer
- High quantum yield for CO formation ($\Phi_{\text{CO}} = 0.15$) and turnover number ($\text{TN}_{\text{CO}} = 207$), photostability



Recently, more and more studies on artificial photosynthesis, in which carbon dioxide is converted into chemical resources by using solar light, have been performed. As part of these studies, the research on photocatalyzed CO₂ reduction into CO has drawn increasing attention.

A novel Ru-Re supramolecular photocatalyst, Ru-Re(FPh) **[R0100]**, which was developed in the Ishitani Laboratory, combines the Re complex, which can efficiently reduce CO₂, with the Ru complex, which is an excellent photosensitizer, thus it can reduce efficiently CO₂ to CO using a wide-range of visible light. In addition to its photostability, **R0100** exhibits tremendous photocatalytic properties (quantum yield of CO formation = 0.15; turnover number of CO formation = 207).

Reference Y. Tamaki, K. Watanabe, K. Koike, H. Inoue, T. Morimoto, O. Ishitani, *Faraday Discuss.* **2012**, 155, 115.

Ru-Re(FPh)

50mg **[R0100]**

This product is commercialized under instruction by Prof. Osamu Ishitani.

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