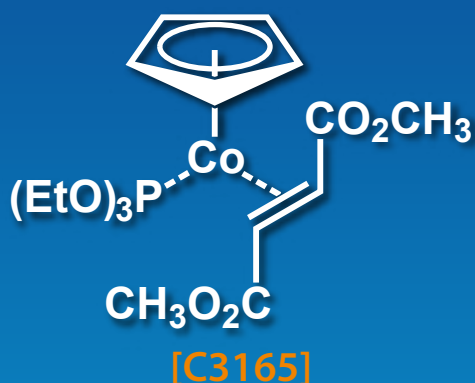


# Air-stable and Recyclable Cobalt Precatalyst for the [2+2+2] Cycloaddition

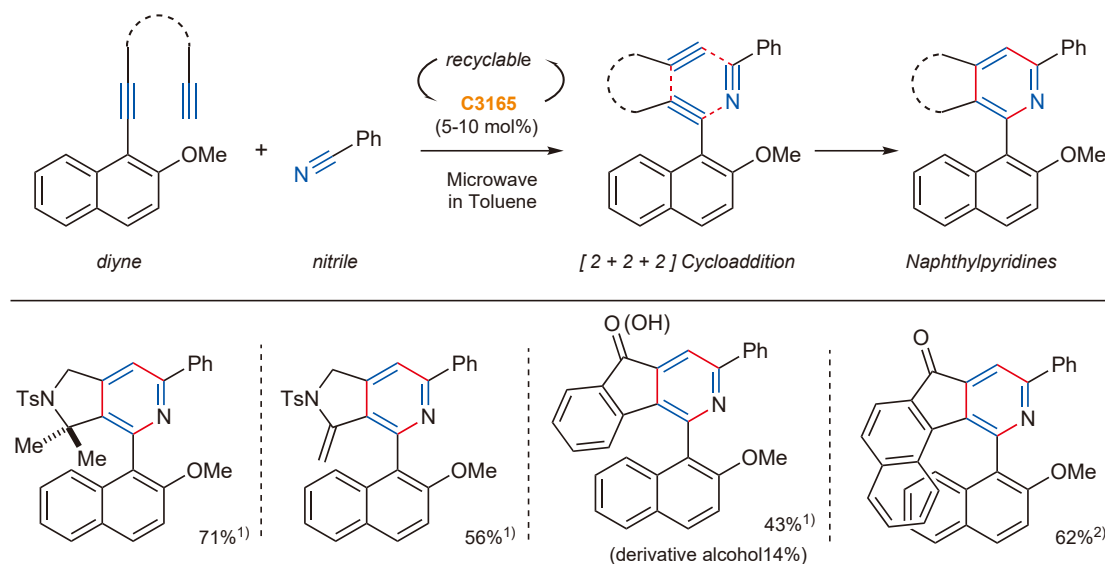


## Advantages

- Air-stable and Recyclable Co(I) Complex
- Applicable to Thermal or Microwave Promoted [2+2+2] Cycloadditions
- Alternative for Precious Metal Catalysts

## Applications

### Co(I) complex catalyzed [2+2+2] cycloaddition



## Procedure

The diene (1 eq.) and catalyst (5–10 mol %) are weighted into a microwave reaction vial (10 mL) and flushed with argon. Afterward toluene (2–3 mL) and nitrile (5 eq.) are added via syringe and the tube is sealed with a septum. The reaction vessel is introduced to the microwave and heated at 140 °C. The solvent is removed under vacuum and the residue charged to silica gel. The crude product is purified on silica gel.

- References**
- 1) F. Fischer, A. F. Siegle, M. Checinski, C. Fischer, K. Kral, R. Thede, O. Trapp, M. Hapke, *J. Org. Chem.* **2016**, *81*, 3087.
  - 2) I. Thiel, A. Spannenberg, M. Hapke, *ChemCatChem* **2013**, *5*, 2865.

**Cyclopentadienyl(dimethyl fumarate)(triethyl phosphite)cobalt(I)** 100mg [C3165]

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