

## SYNFACTS Highlights in Current Synthetic Organic Chemistry

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Octahedral Ruthenium Complex with Exclusive Metal-Centered Chirality for Highly Effective Asymmetric Catalysis  
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## Exclusive Metal-Centered Chirality for Asymmetric Catalysis

Category

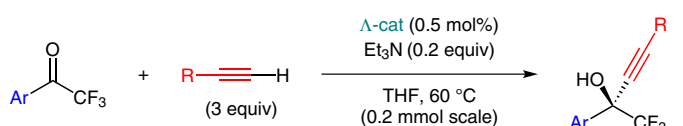
Metal-Catalyzed  
Asymmetric  
Synthesis and  
Stereoselective  
Reactions

Key words

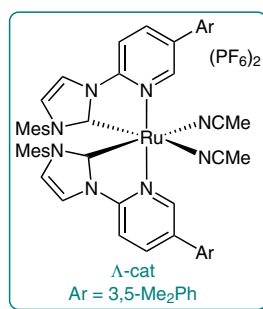
ruthenium catalysis

octahedral  
centrochirality

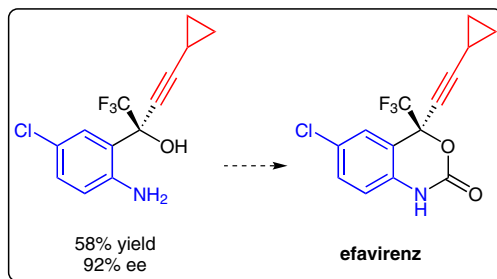
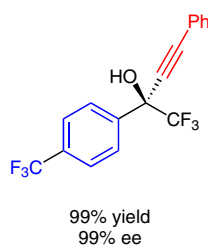
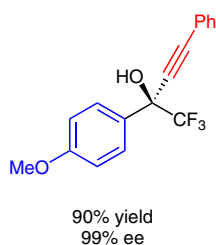
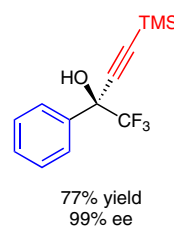
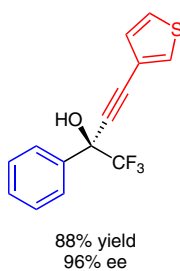
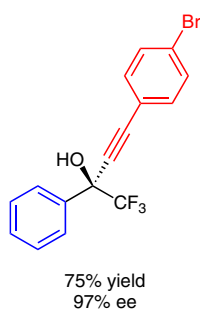
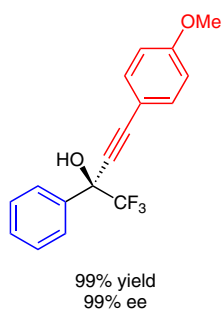
alkynylation



24 examples  
up to 99% yield  
up to 99% ee



Selected examples:



**Significance:** The authors report the first highly enantioselective reaction using a catalyst with metal-centered chirality bearing achiral ligands. The alkylation of trifluoromethyl ketones proceeds to give chiral tertiary alcohols in high yields and with excellent selectivity.

**Comment:** The authors have demonstrated a catalytic enantioselective alkylation that displays a broad scope. The generality and synthetic utility of the protocol was shown by synthesizing a precursor to efavirenz.

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