Rhodium-Catalyzed Enantioselective Hydrogenation of Enamido Esters

**Significance:** Lv, Zhang and colleagues present a rhodium-catalyzed asymmetric hydrogenation of α-acetoxy β-enamido esters. A series of chiral α-hydroxy-β-amino acid derivatives were prepared in high yields (up to 98%) with excellent enantioselectivities (up to 97% ee).

**Comment:** [Rh(nbd)(L)]BF$_4$ is found to be an effective catalyst for the enantioselective hydrogenation of tetrasubstituted enamides. The synthetic utility of this method is demonstrated by the synthesis of biologically important molecules.

**Synthesis of the taxol C13 side chain:**

```
R1
NHPG1
CO2R2
OPG2
Ph
NHAc
CO2Et
OAc
98% yield 97% ee

Ph
NHAc
CO2Me
OAc
94% yield 96% ee

Ph
NHAc
CO2Me
OAc
94% yield 96% ee

Ph
NHAc
CO2Me
OAc
97% yield 96% ee

Bz
NHAc
CO2Me
OAc
97% yield 96% ee

2-Np
NHAc
CO2Me
OAc
96% yield 95% ee

NHBz
CO2Me
OAc
94% yield 96% ee

NHBz
CO2Me
OAc
94% yield 96% ee

Br
NHAc
CO2Me
OAc
96% yield 95% ee

NHAc
CO2Me
OAc
96% yield 97% ee

NHAc
CO2Me
OAc
95% yield 86% ee

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