Synthesis of MK-8742

**Significance:** MK-8742 is an inhibitor of the hepatitis C nonstructural protein NS5a. Key steps in the synthesis depicted are (1) the asymmetric transfer hydrogenation of the imine B and (2) the crystallization-induced diastereoselection in the formation of the N,O-acetal F.

**Comment:** The dr in the N,O-acetal formation E → F (7:1) improved to >99:1 by conducting the reaction in MeCN as the solvent and with TFA as the acid catalyst. KMnO₄ effects the oxidation of the indoline F without racemization of the N,O-acetal, providing indole G in 83% yield and with >99% ee.

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**Key words**

MK-8742  
NS5a inhibitors  
asymmetric transfer hydrogenation  
crystallization-induced diastereoselection

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**Category**

Synthesis of Natural Products and Potential Drugs

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