J. KONG,* C.-Y. CHEN,* J. BALSELLS-PADROS, Y. CAO, R. F. DUNN, S. J. DOLMAN, J. JANEY, H. LI, M. J. ZACUTO (MERCK RESEARCH LABORATORY, RAHWAY, USA)
Synthesis of the HCV Protease Inhibitor Vaniprevir (MK-7009) Using Ring-Closing Metathesis Strategy
J. Org. Chem. **2012**, 77, 3820–3828.

Synthesis of Vaniprevir

Significance: The key step in this synthesis of vaniprevir is the construction of the macrocycle (91% yield) via ring-closing metathesis (RCM). By using simultaneous slow addition of the substrate and the catalyst **D** (0.2 mol%), the RCM reaction could be conducted at high concentration (0.13 M) on a 100 g scale.

Comment: 2,6-Dichloro-1,4-benzoquinone was added to suppress isomerization of the allyl alkene in the isoindoline unit in **C** and consequent competing formation of a 19-membered ring by-product. An important contributor to the success of the RCM reaction was the high purity of crystalline **B**.

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Category

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Key words

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