Synthesis of AMG 837

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Iridium-Catalyzed Enantioselective Allylic Alkynylation

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Scope of the enantioselective allylic alkynylation of aromatic allylic alcohols:

Significance: A new versatile method for the iridium-catalyzed asymmetric substitution of racemic allylic alcohols is exemplified by the depicted synthesis of AMG 837, a GPR40 receptor agonist that is of interest for the treatment of type 2 diabetes.

Comment: The allylic alkynylation (27 examples) typically provides excellent branched-to-linear regioselectivity (rr > 50:1) and high enantioselectivity (≥99%). The scope of the allylic alkynylation was explored using 12 allylic alcohols and 15 potassium alkynyltrifluoroborates.

SYNFACTS Contributors: Philip Kocienski Synfacts 2013, 9(10), 1033 Published online: 17.09.2013 **DOI:** 10.1055/s-0033-1339715; **Reg-No.:** K05513SF **AMG 837**

GPR40 receptor agonist

asymmetric alkynylation

asymmetric substitution

iridium

allylic alcohols

potassium alkynyltrifluoroborates

