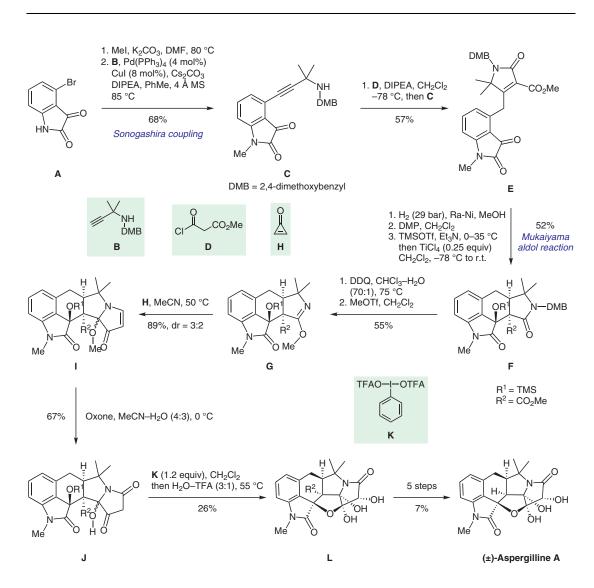
anti-cancer activity

derivatives

M. C. NAKHLA, J. L. WOOD* (BAYLOR UNIVERSITY, WACO, USA) Total Synthesis of (±)-Aspergilline A *J. Am. Chem. Soc.* **2017**, *139*, 18504–18507.

Concise Synthesis of the Alkaloid

(±)-Aspergilline A



Significance: Aspergilline A was isolated from the fungus *Aspergillus versicolor* and possesses activity against the tobacco mosaic virus as well as anti-cancer activity. The Wood group reports a synthesis relying on an elegant pyrrolinone formation and a formal [3+2] cycloaddition.

Comment: Acylation followed by addition to an alkyne and double-bond isomerization transforms **C** into **E**. Mukaiyama aldol reaction creates the core structure in **F**. Imidate **G** undergoes formal cycloaddition with cyclopropenone to form **I** which is further transformed into the indole alkaloid aspergilline A through an oxidation—acetalization—decarboxylation sequence.

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