Concise Total Synthesis of (+)-Lyconadin A


**Significance:** Lyconadin A was isolated in 2001 from the club moss *Lycopodium complanatum* and found to exhibit modest biological activity against some cancer cell lines. To date, two total syntheses have been reported by Smith and Sarpong, in 2007 and 2010, respectively.

**Comment:** This highly efficient synthesis contains many notable steps. One particularly interesting transformation is the formation of tetracycle 1 by ring expansion of the cyclopropane present in G, followed by nucleophilic attack of the secondary amine to quench the allyl cation.

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**Synthesis of (+)-Lyconadin A**

[Chemical structures and reactions depicted in the image]