T. NEWHOUSE, C. A. LEWIS, P. S. BARAN* (THE SCRIPPS RESEARCH INSTITUTE, LA JOLLA, USA)
Enantiospecific Total Syntheses of Kapakahines B and F

Synthesis of Kapakahines B and F

**Significance:** Kapakahines are metabolites of the sponge *Cribrochalina olemda*. Kapakahine B has modest antileukemic activity but kapakahine F is inactive. A salient feature of this short and efficient synthesis is the in situ kinetic trapping of the \( \alpha \)-carboline \( G \) which is in dynamic equilibrium with the pyrroloindoline \( F \).

**Comment:** Cyclization of the amino acid \( F \) (participating atoms highlighted in red) gives a macrocycle (not shown) in 6% yield together with the desired \( \alpha \)-carboline \( G \). All the steps leading up to \( H \) were performed on a gram scale.

**Key words**
kapakahines
indoles
annulation
macrocycles
\( \alpha \)-carbolines
palladium

SYNFACTS Contributors: Philip Kocienski
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