Asymmetric Total Synthesis of (-)-Phaeocaulisin A *J. Am. Chem. Soc.* **2022**, 10.1021/jacs.2c02188 doi:10.1021/jacs.2c02188 Áron Péter, Giacomo E. M. Crisenza, and David J. Procter*(University of Manchester, England)



Key Steps:

- Sml₂-mediated stereoselective cyclizations in two steps, a difference between ^tBu ester and Me ester
- Heck reaction

Significance:

- First asymmetric total synthesis of Phaeocaulisin A.
- Taking advantage of the umpolung carbonyl-olefin coupling reactivity to achieve two sequential Sml₂. mediated cyclizations to stereoselectively construct the polycyclic core of the natural product.