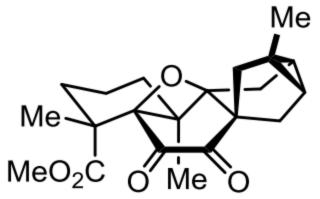
## Total Synthesis of (–)-Mitrephorone A

Richter, M. J. R.; Schneider, M.; Brandstatter, M.; Krautwald. S.; Carreira, E. M., *J. Am. Chem. Soc.* **DOI:** 10.1021/jacs.8b09685

- Antimicrobial/antitumor agent isolated from Mitrephora glabra.
- Contains a fully substituted oxetane ring, which is a common motif in natural products and to which its cytotoxicity can be ascribed.
- Highly congested structure (tetrasubsituted cyclopropane, four quaternary centers, and five contiguous stereocenters) poses a unique challenge for total synthesis

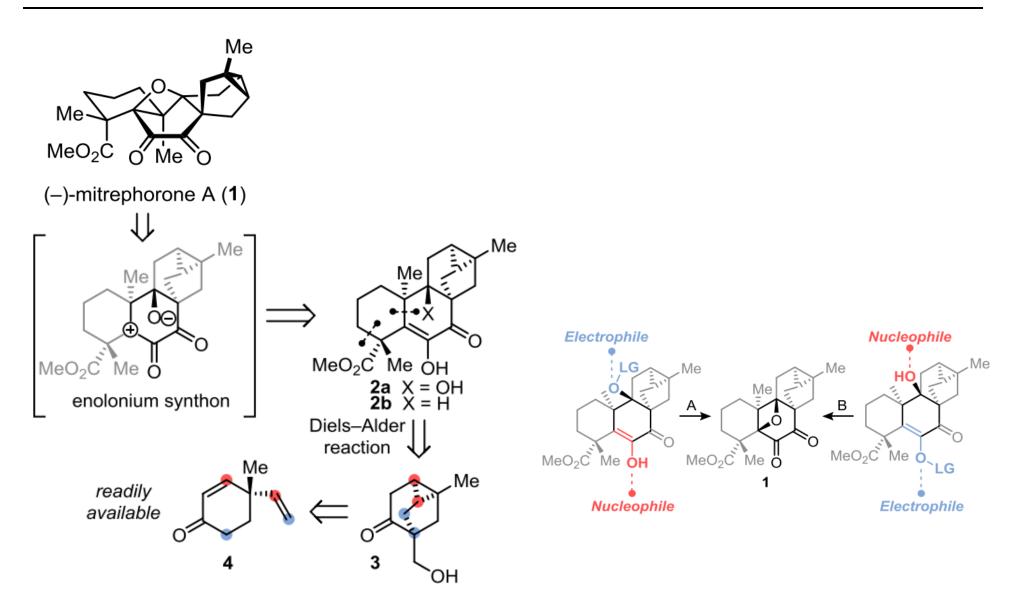


(–)-mitrephorone A (1)



15 November 2018 Jeremy Armand

## Retrosynthetic Analysis



TESO 
$$P$$
 TESO  $P$  TOIO  $P$  TESO  $P$  TESO  $P$  TESO  $P$  TOIO  $P$  TO

$$\frac{\text{Et}_2\text{AICN}}{\text{OR}}$$

$$R = \text{TES}$$

$$\frac{\text{Et}_2\text{AICN}}{\text{toluene}}$$

$$\frac{\text{R}}{\text{R}} = \text{TES}$$

$$\frac{\text{R}}{\text{OR}}$$

$$\frac{\text{R}}{\text{OR}}$$

$$\frac{\text{R}}{\text{R}} = \text{TES}$$

$$\frac{\text{R}}{\text{OR}}$$

$$\frac{\text{R}}{\text{R}} = \text{TES}$$

$$\frac{\text{R}}{\text{OR}}$$

$$\frac{\text{R}}{\text{R}} = \text{TES}$$

$$\frac{\text{R}}{\text{OR}}$$

$$\frac{\text{R}}{\text{OR}}$$

$$\frac{\text{R}}{\text{R}} = \text{TES}$$

$$\frac{\text{R}}{\text{OR}}$$

$$\frac{\text{R}}{\text{O$$

$$H = \frac{O - P_{1}}{35} + \frac{O - P_{2}}{35} + \frac{O - P$$

$$\frac{\text{Et}_2\text{AICN}}{\text{OR}}$$

$$R = \text{TES}$$

$$\frac{\text{Et}_2\text{AICN}}{\text{toluene}}$$

$$\frac{\text{R}}{\text{R}} = \text{TES}$$

$$\frac{\text{R}}{\text{R}} = \text{TES}$$