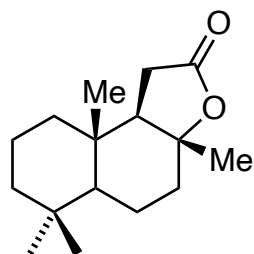
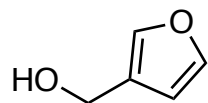
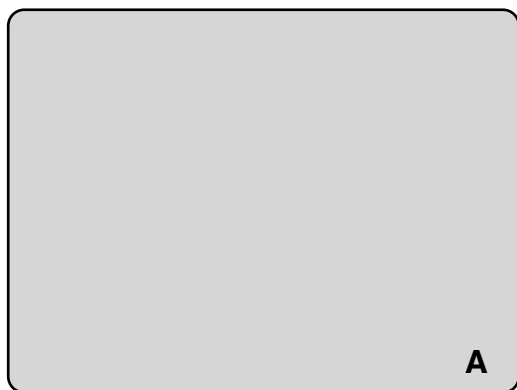


## Concise Chemoselective Synthesis of Gedunin

Li, J., Chen, F., Renata, H. *J. Am. Chem. Soc.* **2022**, *144*, 19238-19242.

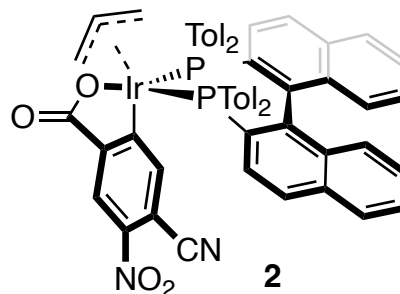
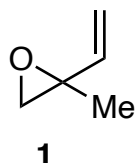


1-4



5-8

- 1) MeLi, TFAA, H<sub>2</sub>O<sub>2</sub>
- 2) SOCl<sub>2</sub>, pyridine
- 3) O<sub>3</sub>, DMS, *then* DBU
- 4) MERO 1 L437A



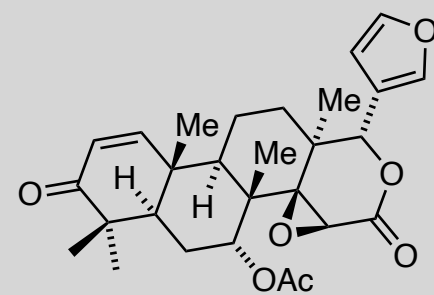
- 5) **1**, **2** (5 mol%), K<sub>3</sub>PO<sub>4</sub>

1) Name of starting material? What class of natural product is it?

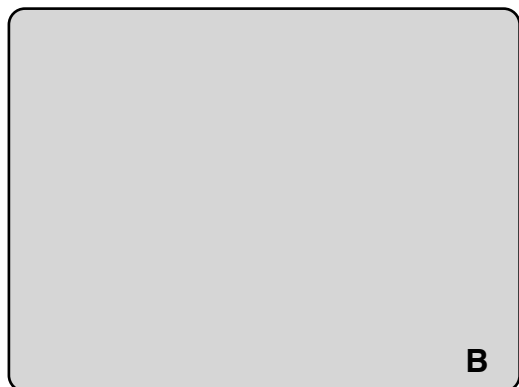
4) Hint: Enzymatic regio- and stereoselective functionalization on the C3 position resulting in an IR stretch at 3300-3600 cm<sup>-1</sup>.

4) What type of enzyme do you think this is?

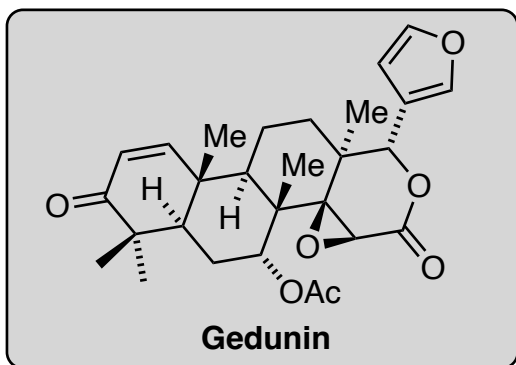
5) Name of reaction? Hint: reaction is diastereo- and enantio-selective



**Gedunin**



9-17  
↓



6) TMSCl, NEt<sub>3</sub>, *then* acryloyl chloride,  
*then* citric acid, MeOH  
7) HG-II  
8) I<sub>2</sub>, PPh<sub>3</sub>, imidazole

9) **A**, Zn, CuI, sonication  
10) tBuOK, MePPh<sub>3</sub>Br  
11) DMP  
12) SeO<sub>2</sub>, TBHP  
13) Fe(acac)<sub>3</sub>, PhSiH<sub>3</sub>  
14) LDA, TMSCl  
15) Pd(OAc)<sub>2</sub>, O<sub>2</sub>; HF quench  
16) Ac<sub>2</sub>O, NEt<sub>3</sub>  
17) *m*CPBA

6) Hint: an *in situ* protection and deprotection occur on the more reactive alcohol.

9) Who came up with these conditions?

12) Name of reaction?

12) Hint: 0.5 equiv. of SeO<sub>2</sub>

13) Name of reaction?

14) Hint: 10 equiv. of TMSCl and 4 equiv. of LDA.

15) Name of reaction?

17) Rationalize the chemo- and diastereo-selectivity observed.