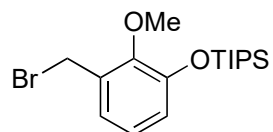


## Total Syntheses of Rhodomolleins XX and XXII

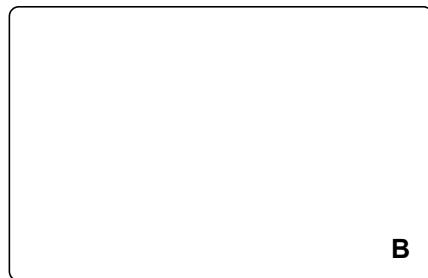
Kuan Yu, Zhen-Ning Yang, Chun-Hui Liu, Shao-Qi Wu, Xin Hong, Xiao-Li Zhao, Hanfeng Ding  
*Angew. Chem. Int. Ed.* **2019**, *58*, 8556–8560.



1 – 5

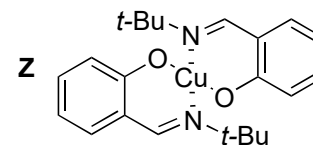
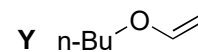
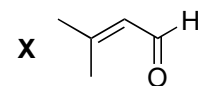


6 – 10



- 1) Mg, 1,2-dibromoethane  
then **X**
- 2) Hg(OAc)<sub>2</sub>, NaOAc, **Y**
- 3) ethyl diazoacetate, SnCl<sub>2</sub>
- 4) TsN<sub>3</sub>, NEt<sub>3</sub>
- 5) **Z**, 115 °C

- 6) TMSOTf, (CH<sub>2</sub>OTMS)<sub>2</sub>  
then pyridine
- 7) NBS, THF / H<sub>2</sub>O
- 8) *t*-BuOK, then Pd/C, H<sub>2</sub>
- 9) LDA (excess), MePO(OMe)<sub>2</sub>,  
(CH<sub>2</sub>O)<sub>n</sub>
- 10) TBAF  
then PIDA, MeOH



2) Please name the reaction.

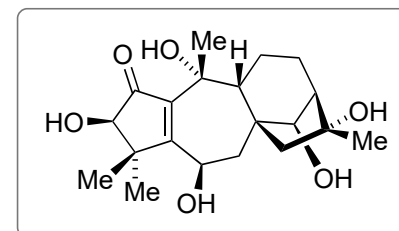
3) Please name the reaction.

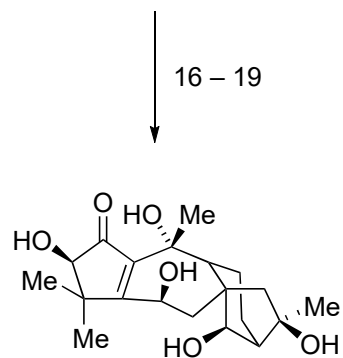
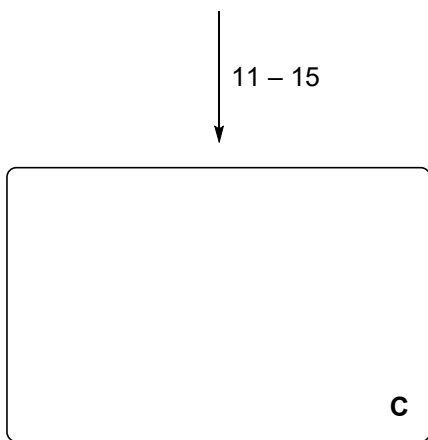
6) hint: ring opening followed by protection

7) hint: water is important

9) reaction name?

10) key step. mechanism?





**Rhodomollein XX**

- 11)  $\text{SmI}_2$
- 12) DMSO
- 13)  $\text{Cp}_2\text{TiCl}_2$ , Mn, 2,4,6-collidine
- 14)  $\text{Cp}_2\text{TiMe}_2$   
then *p*-TsOH
- 15) PhSeCl, pyridine

- 16)  $\text{Co}(\text{acac})_2$ , PhSiH<sub>3</sub>, O<sub>2</sub>
- 17) TBSOTf, NEt<sub>3</sub>
- 18) MeMgBr
- 19) MeReO<sub>3</sub>, H<sub>2</sub>O<sub>2</sub>, pyridine  
then PPTS

13) Please come up with a mechanism. Name of the reaction?

14) Please name the reaction. Name also alternatives for this transformation.

16) Please name the reaction.

17) hint: double protection

