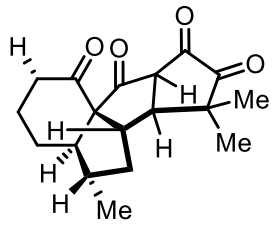
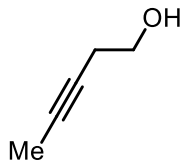
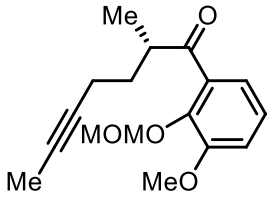
Aberrarone
(Elisapterane relevant diterpenoids)



Ding and co-workers
J. Am. Chem. Soc. **2025,** 147, 36, 33136–33152
- Nautral product originating from marine source
- Isolated from Pseudopterogorgia elisabethae



1

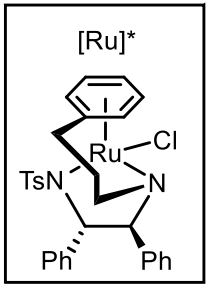


2

1. p-TSA, H_2O
92%

2. [Ru]*
HCO_2H, NEt_3
98%, 6:1 d.r.

3



Pd/ $CaCO_3$
H_2
94%

Type of reaction?

PIFA, HFIP
Na_2CO_3

60%

4

5

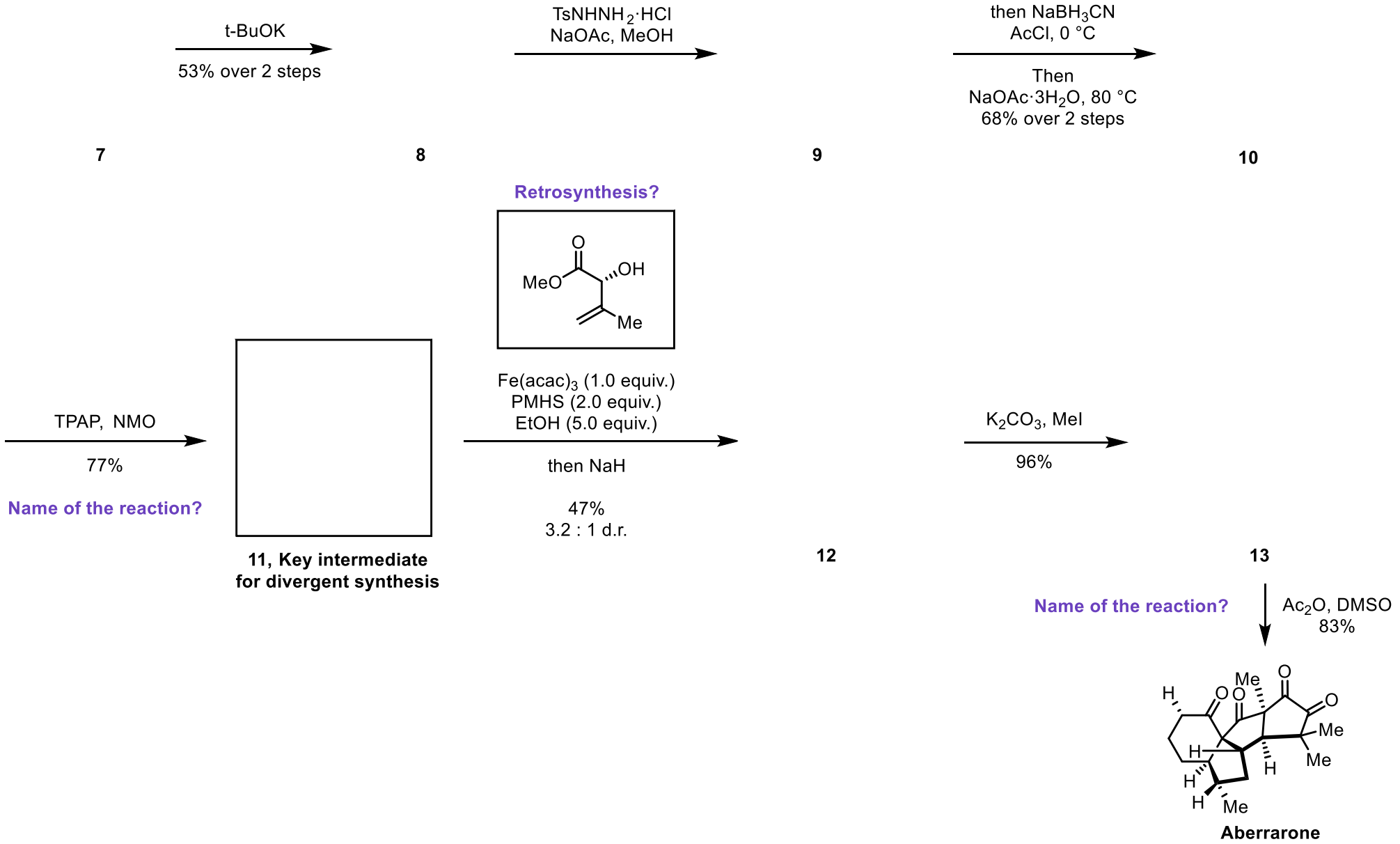
UHP, TFAA
70%

SmI_2 (2.5 equiv.), HMPA

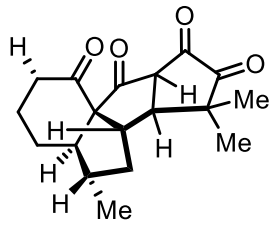
then MeOH

6

7


t-BuOK
53% over 2 steps
TsNHNH2·HCl
NaOAc, MeOH
then NaBH3CN
AcCl, 0 °C
Then
NaOAc·3H2O, 80 °C
68% over 2 steps
7
8
9
10
Retrosynthesis?
O
MeO
OH
Me
TPAP, NMO
77%
Name of the reaction?
Fe(acac)3 (1.0 equiv.)
PMHS (2.0 equiv.)
EtOH (5.0 equiv.)
then NaH
47%
3.2 : 1 d.r.
K2CO3, MeI
96%
11, Key intermediate
for divergent synthesis
12
13
Name of the reaction?
Ac2O, DMSO
83%
Aberrarone

Aberrarone
(Elisapterane relevant diterpenoids)



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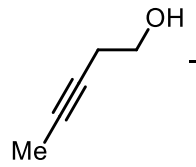
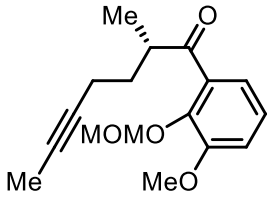


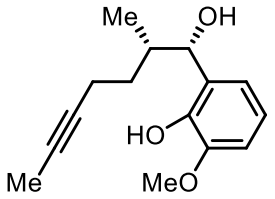
1



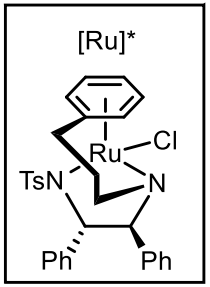
1

1. p-TSA, H_2O
92%

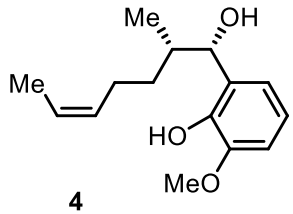
2. [Ru]*
HCO_2H, NEt_3
98%, 6:1 d.r.



3



Pd/ $CaCO_3$
H_2
94%

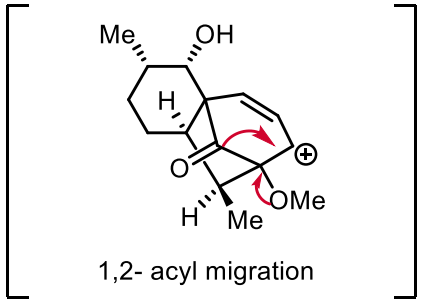


4

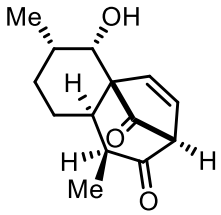
PIFA, HFIP
Na_2CO_3

60%

Type of reaction?

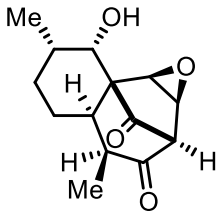


1,2- acyl migration



5

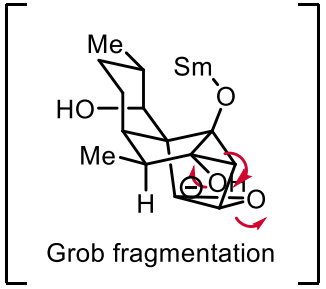
UHP, TFAA
70%



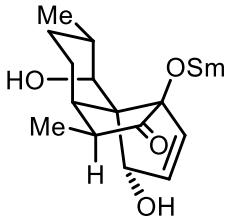
6

SmI_2 (4.5 equiv.), HMPA

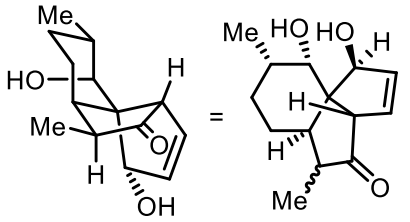
then MeOH



Grob fragmentation



α-deoxygenation



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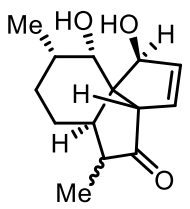
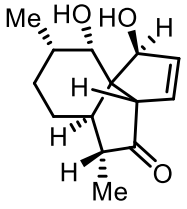


7

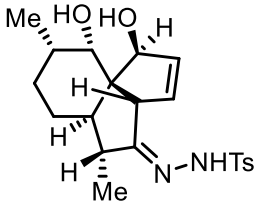
t-BuOK

53% over 2 steps



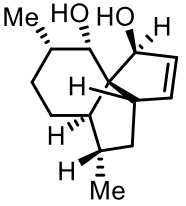
8

$TsNHNH_2 \cdot HCl$
NaOAc, MeOH



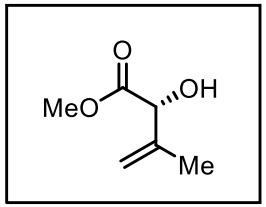
then $NaBH_3CN$
AcCl, 0 °C

Then
$NaOAc \cdot 3H_2O$, 80 °C
68% over 2 steps



10

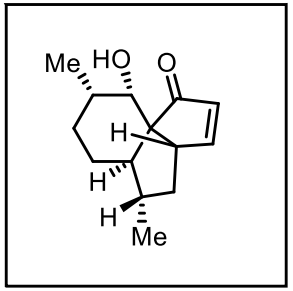
Retrosynthesis?



TPAP, NMO

77%

Name of the reaction?
Ley-griffith oxidation

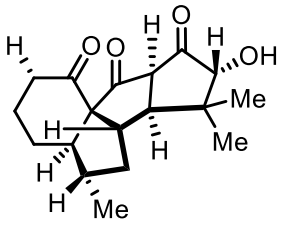


11, Key intermediate for divergent synthesis

$Fe(acac)_3$ (1.0 equiv.)
PMHS (2.0 equiv.)
EtOH (5.0 equiv.)

then NaH

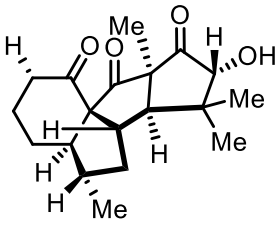
47%
3.2 : 1 d.r.



12

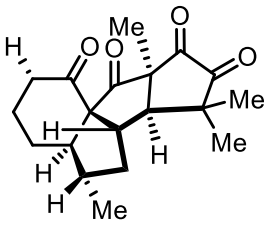
K_2CO_3, MeI

96%



Name of the reaction? **13**
Albright–Goldman oxidation

Ac_2O, DMSO
83%



Aberrarone

Retrosynthesis: