

A

26.09.2018

C

C

$\xrightarrow{2) \text{toluene, } 100^\circ\text{C}}$

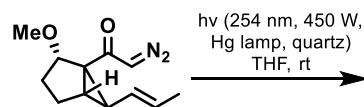
endiandric acid B
methyl ester
hint: tetracyclic system

Hint: 2 cycles are formed in step 2

D

$\xrightarrow{2) \text{toluene, } 100^\circ\text{C}}$

endiandric acid C
methyl ester
hint: tetracyclic system (bridged)

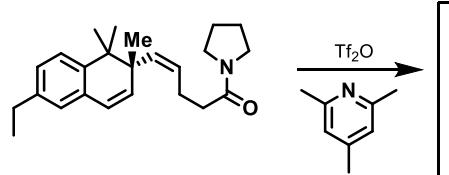


E

F

G

bicyclic system



H

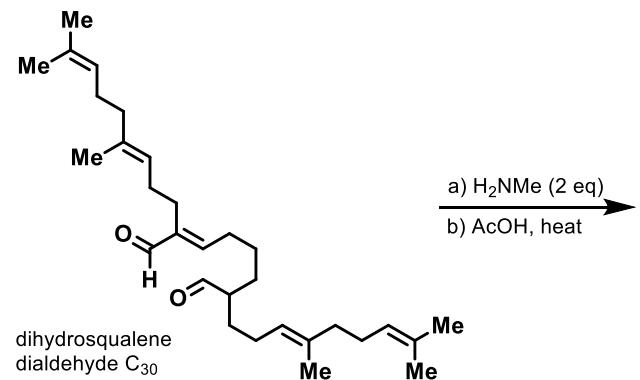
I

J

Hint: tetracyclic system

K

$\xrightarrow[1) m\text{CPBA, NaHCO}_3, \text{then DMP}]{}$
 $\xrightarrow{2) \text{AgTFA, Br}_2}$



a) H_2NMe (2 eq)
b) AcOH , heat

L

M

N

O

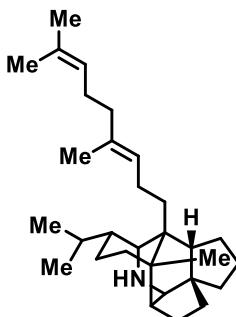
P

Q

Hint: tetracyclic system

R

S



Hint: this cascade reaction involves a formal hetero-Diels-Alder reaction as well as a Prins cyclization.