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#### **Supporting Information**

# Stereoselective Ireland-Claisen rearrangement of dienylmethyl ester and regioselective bromolactonization of β-divinylpropanoic acid: a new approach for the synthesis of viridiofungin analogue

Masatoshi Murakata and Takuma Ikeda

API Process Development Department, Chugai Pharmaceutical Co., Ltd., 5-5-1 Ukima, Kita-Ku, Tokyo 115-8543, Japan

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#### General.

1H NMR (500 MHz) and 13C NMR (125 MHz) were recorded on JNM-ECP 500 (JEOL) or DRX-500 (Bruker) spectrophotometer with tetramethylsilane or the solvent resonance as an internal standard.

NOESY experiments were performed with a DRX-500 (Bruker) spectrophotometer.

# 1H NMR (CDCl<sub>3</sub>): 8



#### $\mathbf{O}$ 90.0 C<sub>7</sub>H<sub>15</sub>1 14.15 80.0 8 70.0 60.0 50.0 6.97 40.0 30.0 3.96 20.0 2.12 2.00 10.0 0.90(Millions) 2.1 2.2 2.3 1.8 2.4 2.0 1.9 1.7 1.3 1.2 1.5 1.4 1.6 1.1 2.194 2.189 2.180 2.180 2.175 2.166 2.161 1.380 - 355 - 1.355 - 1.355 - 1.355 - 1.324 - 1.2290 - 1.2290 - 1.2280 - 1.2280 - 1.224 - 1.22 2.395 2.381 2.366 1.412 .936 .930 .502 .487 941 X : parts per Million : 1H

# 1H NMR (CDCl<sub>3</sub>): 8 (partial enlarged view)

#### 13C NMR (CDCl<sub>3</sub>): **8**



# 13C NMR (CDCl<sub>3</sub>): 8 (partial enlarged view)





# 1H NMR (CDCl<sub>3</sub>): 9 (partial enlarged view)



# 13C NMR (CDCl3): 9



# 13C NMR (CDCl<sub>3</sub>): **9** (partial enlarged view)



# 1H NMR (CDCl3): **10**



# 1H NMR (CDCl<sub>3</sub>): **10** (partial enlarged view)



# 13C NMR (CDCl<sub>3</sub>): 10



13C NMR (CDCl<sub>3</sub>): **10** (partial enlarged view)



1H NMR (CDCl<sub>3</sub>): **11** 



# 1H NMR (CDCl<sub>3</sub>): **11** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **11** (partial enlarged view)



13C NMR (CDCl<sub>3</sub>): 11



# 1H NMR (CDCl<sub>3</sub>): **12**



# 1H NMR (CDCl<sub>3</sub>): **12** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **12** (partial enlarged view)



# 13C NMR (CDCl<sub>3</sub>): 12



# 1H NMR (CDCl<sub>3</sub>): **5**



# 1H NMR (CDCl<sub>3</sub>): **5** (partial enlarged view)





# 1H NMR (CDCl<sub>3</sub>): **5** (partial enlarged view)



# 13C NMR (CDCl<sub>3</sub>): **5**



#### 13C NMR (CDCl<sub>3</sub>): **5** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **4**



 $C_7H_{15}$ 21.08 40.0 HO шO Me 4 Me 30.0 20.0 10.0 3.84 3.02 3.00 1.93 0.98 0.95 0.94 (Millions) 0 3.3 3.2 3.1 3.0 2.9 2.8 2.7 2.6 2.5 2.4 2.3 2.2 2.1 2.0 1.9 1.8 1.7 1.6 1.5 1.4 1.3 1.2 1.1 1.0 0.9 0.8 0.7 0.6 0.5 0.4 0.3 2.656 - 2.626 -2.225 × 2.225 × 2.215 × 2.215 × 2.195 × 2.195 × 2.195 × 1.991 × 11.991 × 11.991 × 11.965 × 11 3.038 3.021 3.003 .600 589 0.891 0.877 0.864 85 568 529 364 31 20 290 262 222 X : parts per Million : 1H

# 1H NMR (CDCl<sub>3</sub>): **4** (partial enlarged view)

# 1H NMR (CDCl<sub>3</sub>): **4** (partial enlarged view)



13C NMR (CDCl<sub>3</sub>): 4



# 13C NMR (CDCl<sub>3</sub>): 4 (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **3**



# 1H NMR (CDCl<sub>3</sub>): **3** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **3** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **3** (partial enlarged view)


# 13C NMR (CDCl<sub>3</sub>): **3**



# 13C NMR (CDCl<sub>3</sub>): **3** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **14**



# 1H NMR (CDCl<sub>3</sub>): 14 (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): 14 (partial enlarged view)



1H NMR (CDCl3): 14 (partial enlarged view)



#### 13C NMR (CDCl3): 14



## 13C NMR (CDCl<sub>3</sub>): **14** (partial enlarged view)



1H NMR (CDCl<sub>3</sub>): **2** 



1H NMR (CDCl<sub>3</sub>): **2** (partial enlarged view)



1H NMR (CDCl<sub>3</sub>): **2** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **2** (partial enlarged view)



13C NMR (CDCl<sub>3</sub>): 2



#### 13C NMR (CDCl<sub>3</sub>): 2 (partial enlarged view)



1H NMR (CDCl<sub>3</sub>): **16** 



# 1H NMR (CDCl<sub>3</sub>): **16** (partial enlarged view)



1H NMR (CDCl<sub>3</sub>): **16** (partial enlarged view)



1H NMR (CDCl<sub>3</sub>): **16** (partial enlarged view)



1H NMR (CDCl<sub>3</sub>): **16** (partial enlarged view)



#### 13C NMR (CDCl<sub>3</sub>): 16



13C NMR (CDCl<sub>3</sub>): **16** (partial enlarged view)



## 13C NMR (CDCl<sub>3</sub>): **16** (partial enlarged view)



#### 1H NMR (CDCl<sub>3</sub>): **Z-16**



# 1H NMR (CDCl<sub>3</sub>): **Z-16** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): *Z***-16** (partial enlarged view)



## 1H NMR (CDCl<sub>3</sub>): *Z***-16** (partial enlarged view)



#### 13C NMR (CDCl<sub>3</sub>): **Z-16**



13C NMR (CDCl<sub>3</sub>): **Z-16** (partial enlarged view)



# 13C NMR (CDCl<sub>3</sub>): *Z***-16** (partial enlarged view)



## 1H NMR (CDCl<sub>3</sub>): **13**



## 1H NMR (CDCl<sub>3</sub>): **13** (partial enlarged view)



# 1H NMR (CDCl<sub>3</sub>): **13** (partial enlarged view)



## 1H NMR (CD3OD): 1



# 1H NMR (CD<sub>3</sub>OD): 1 (partial enlarged view)



# 1H NMR (CD3OD): 1 (partial enlarged view)



NOESY Experiment of **3** 




## NOESY Experiment of **3**