

Supporting Information-3:

Antiviral New Limonoids Including Khayanolides from the Trang Mangrove Plant, *Xylocarpus moluccensis*

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Copies of CD spectra for compounds **2-12**, and quantum-chemical electronic circular dichroism (ECD) calculations for compounds **3, 4, 6, 11, and 12**.

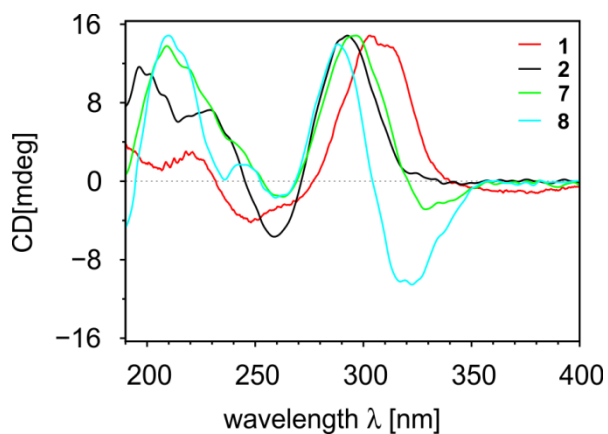


Figure S1. Comparison of the experimental CD spectra of **1**, **2**, **7**, and **8**, due to the similarity of these curves all compounds do have the *R*-configuration at the stereocenters C-13 and C-17.

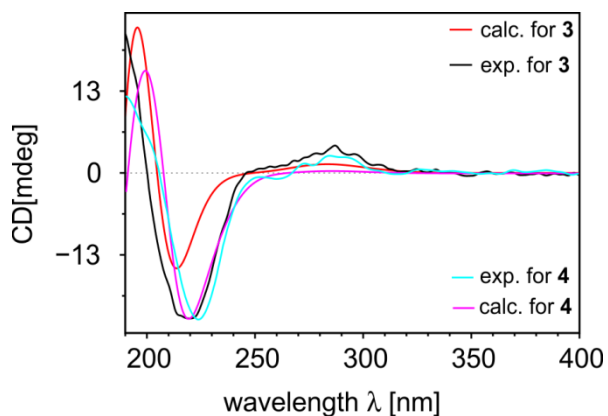


Figure S2. Comparison of the experimental and calculated (both of the 1*R*,2*R*,4*R*,5*R*,9*R*,10*R*,13*R*,17*R*,30*R* configuration) CD spectra of **3** and **4**.

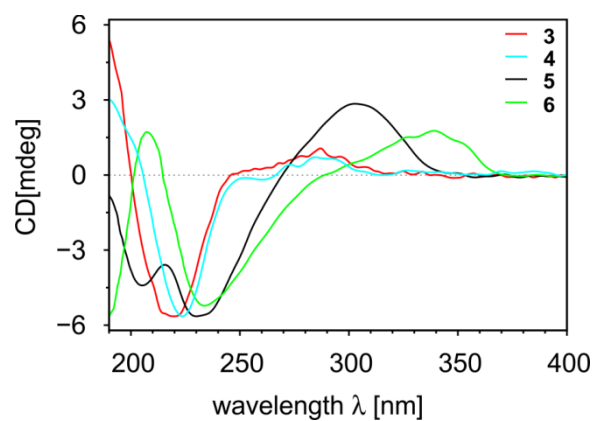


Figure S3. Comparison of the experimental CD spectra of **3**, **4**, **5**, and **6**, due to the similarity of these curves all compounds do have the same configuration at the stereocenters C-13 and C-17.

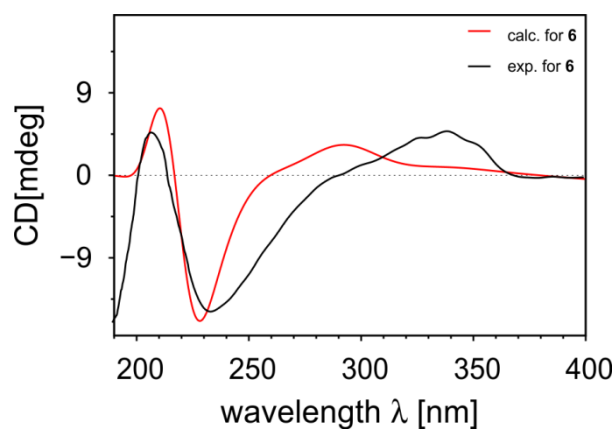


Figure S4. Comparison of the experimental CD spectra of **6** with that calculated for the 1*R*,3*S*,4*R*,5*S*,9*R*,10*S*,13*R*,17*R*,30*S*-configured **6**.

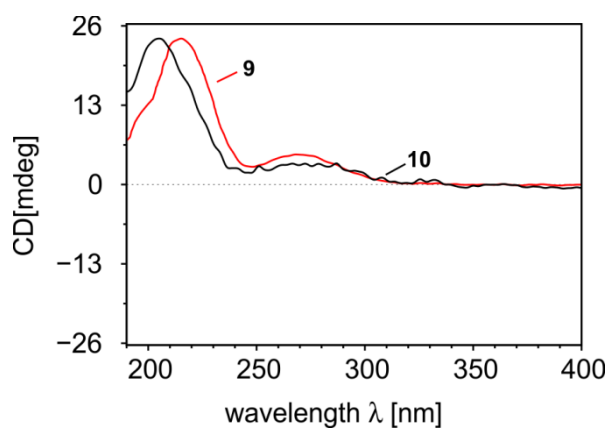


Figure S5. Comparison of the experimental CD spectra of **9** and **10**, due to the similarity of these curves the compounds do have the same configuration. In addition they are nearly identical with the CD curve of the known compound andirolide G.

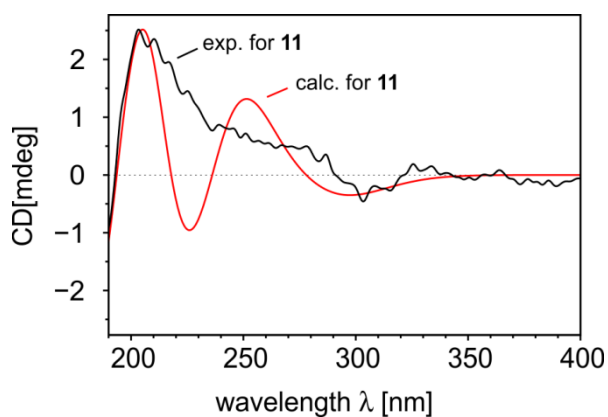


Figure S6. Comparison of the experimental CD spectra of **11** with the spectrum calculated of *2R,5S,9S,10R,13R,17R*-**11**. The *R*-configuration at C-6 was arbitrarily chosen but has no influence to the CD and was thus not elucidated.

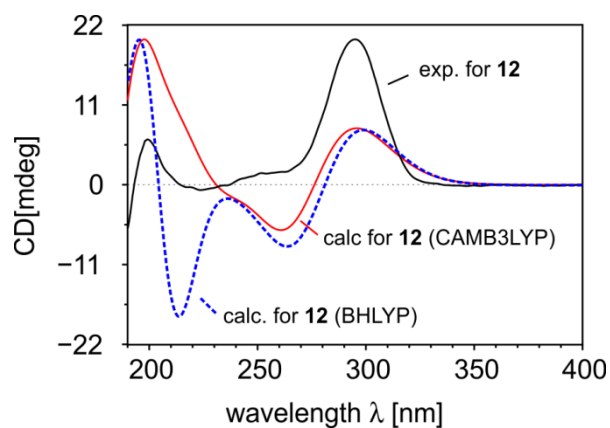


Figure S7. Comparison of the experimental CD spectra of **12** with the spectrum calculated for *2R,5S,9S,10R,13R,17R*-**12**. The stereocenter at C-6 was arbitrarily set to an *R*-configuration it has no influence on the CD spectrum and was thus not elucidated. In this case two different methods were used: TDBHLYP/def2-SVP and TDCAM-B3LYP/def2-TZVP(-f).

UPLC-MS analysis of thaixylomolin I (**3**) maintained in EtOH

In the experiment, 1.0 mg of compound **3** was dissolved and maintained in 1.0 mL EtOH at room temperature for a week. Then, UPLC-MS analysis was performed on an RP-18 column (ACQUITY UPLC BEH, 100 × 2.1 mm i.d., 1.7 μ m, Waters) and eluted with 40% MeCN in water. In **Figure S10**, except for the peak of compound **3** (t_R = 3.6 min with a molecular weight of 542), the only new produced small peak at t_R = 5.5 min can be found. Its molecular weight is 568. At the moment, we do not know the genuine structure of this peak. But, undoubtedly, it was not compound **4**, which should appear at t_R = 7.4 min and have a molecular weight of 570 (Please see **Figure S9**).

Display Report

Analysis Info

Analysis Name C:\Users\john\Desktop\1\lws-3-45%MeCN_1-B,2_01_180.d
 Method 180.m
 Sample Name lws-3-45%MeCN
 Comment

Acquisition Date 2015/3/29 18:09:15

Operator bdal
 Instrument amaZon SL

Acquisition Parameter

Ion Source Type	ESI	Ion Polarity	Positive	Alternating Ion Polarity	on
Mass Range Mode	Enhanced	Scan Begin	50 m/z	Scan End	1000 m/z
Capillary Exit	1395 a/s	n/a	n/a	Trap Drive	64.4
Accumulation Time		Averages	2 Spectra	Auto MS/MS	off

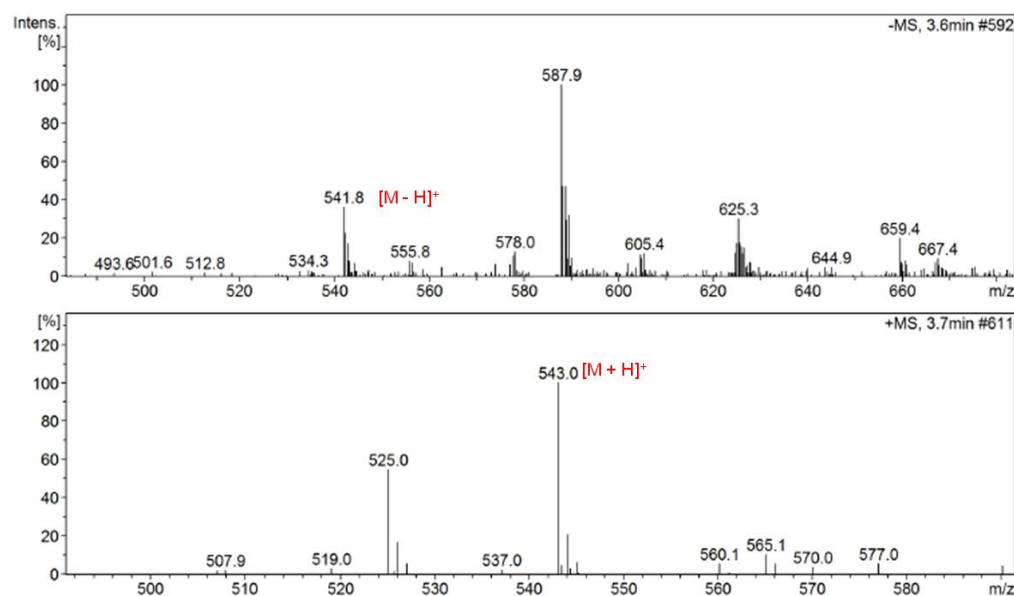
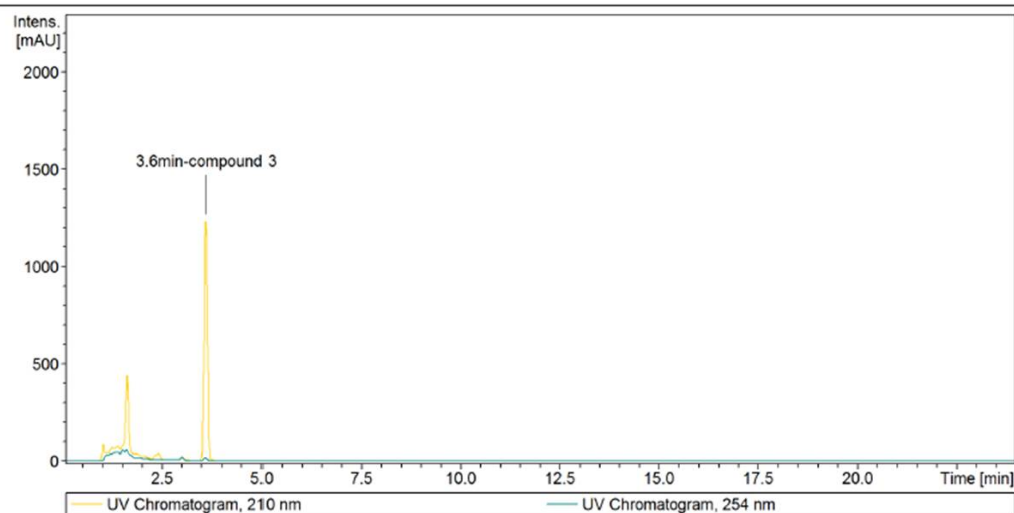


Figure S8. UPLC-MS analysis of thaixylomolin I (**3**)

Display Report

Analysis Info

Analysis Name D:\Data\liwanshan\no-lws-24_1-B,1_01_177.d
 Method 177.m
 Sample Name no-lws-24
 Comment

Acquisition Date 3/29/2015 3:40:04 PM

Operator bdal
 Instrument amaZon SL

Acquisition Parameter

Ion Source Type	ESI	Ion Polarity	Negative	Alternating Ion Polarity	on
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SPS Target Mass	600 m/z	Averages	2 Spectra	Auto MS/MS	off

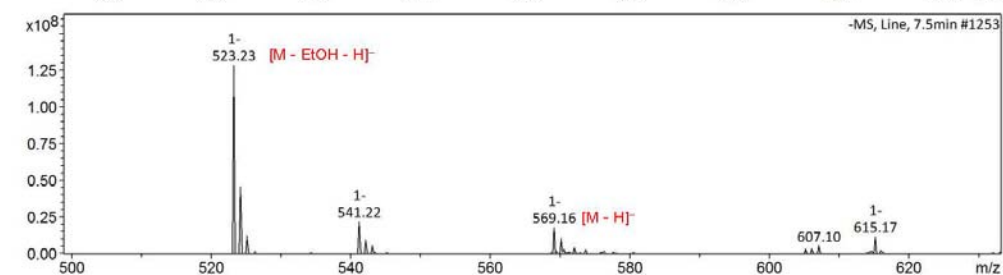
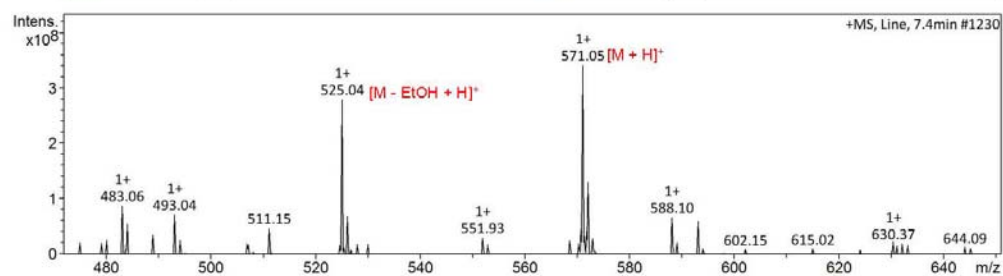
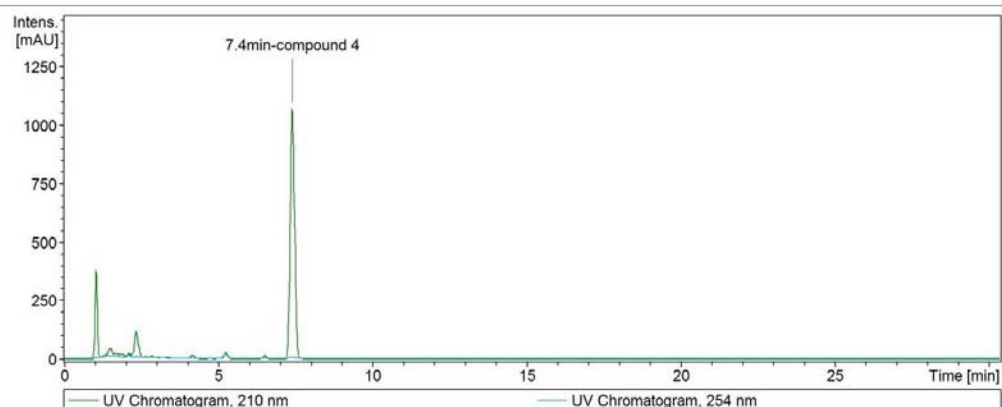


Figure S9. UPLC-MS analysis of thaixylomolin J (4)

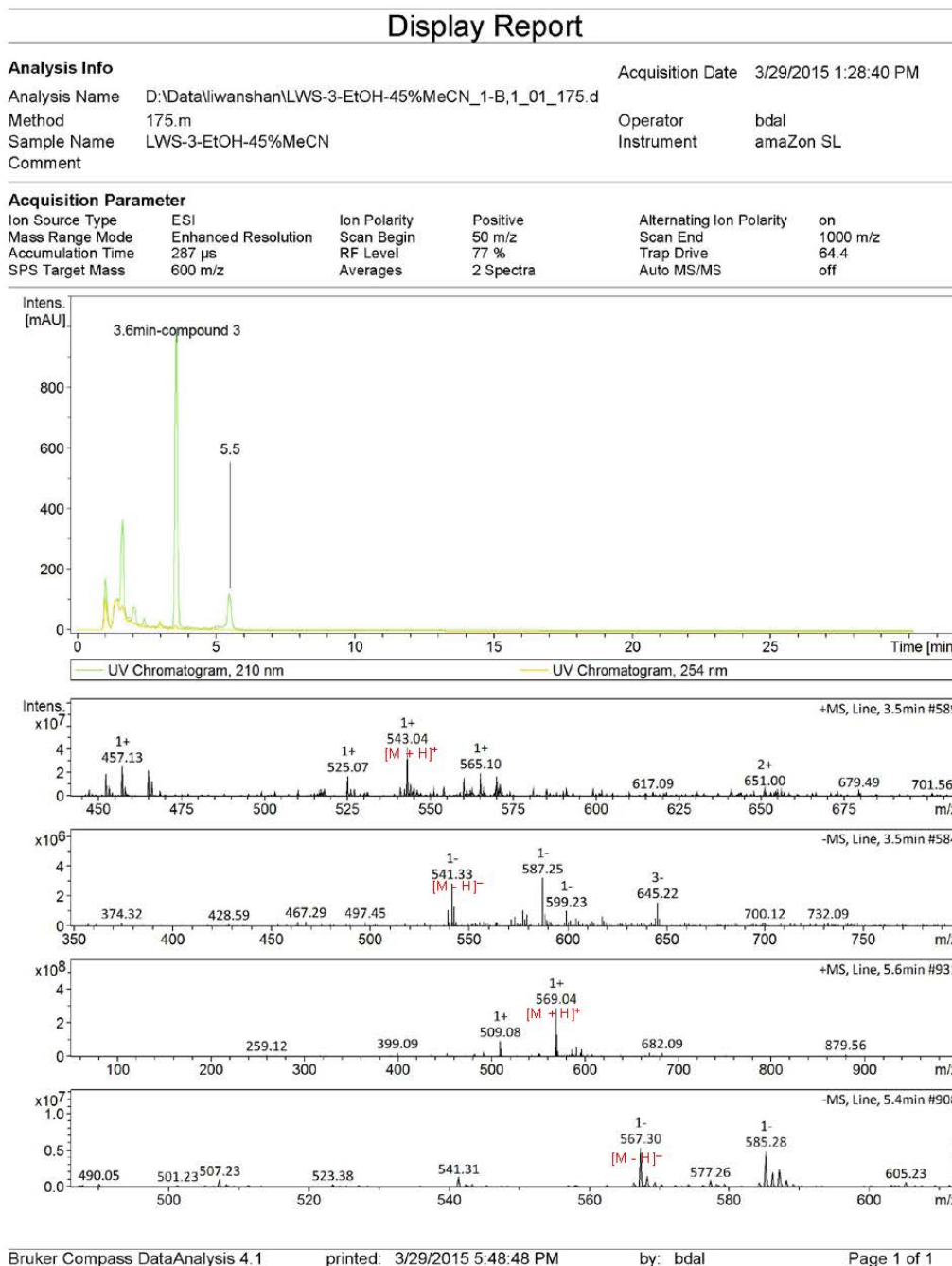


Figure S10. UPLC-MS analysis of thaixylomolin I (**3**) maintained in EtOH (1.0 mg of thaixylomolin I (**3**) was dissolved and maintained in 1.0 mL EtOH at room temperature for a week)