Supplementary Materials

Discovery of Survivin Inhibitors Part 1: Screening the Harbor Branch Pure Compound Library

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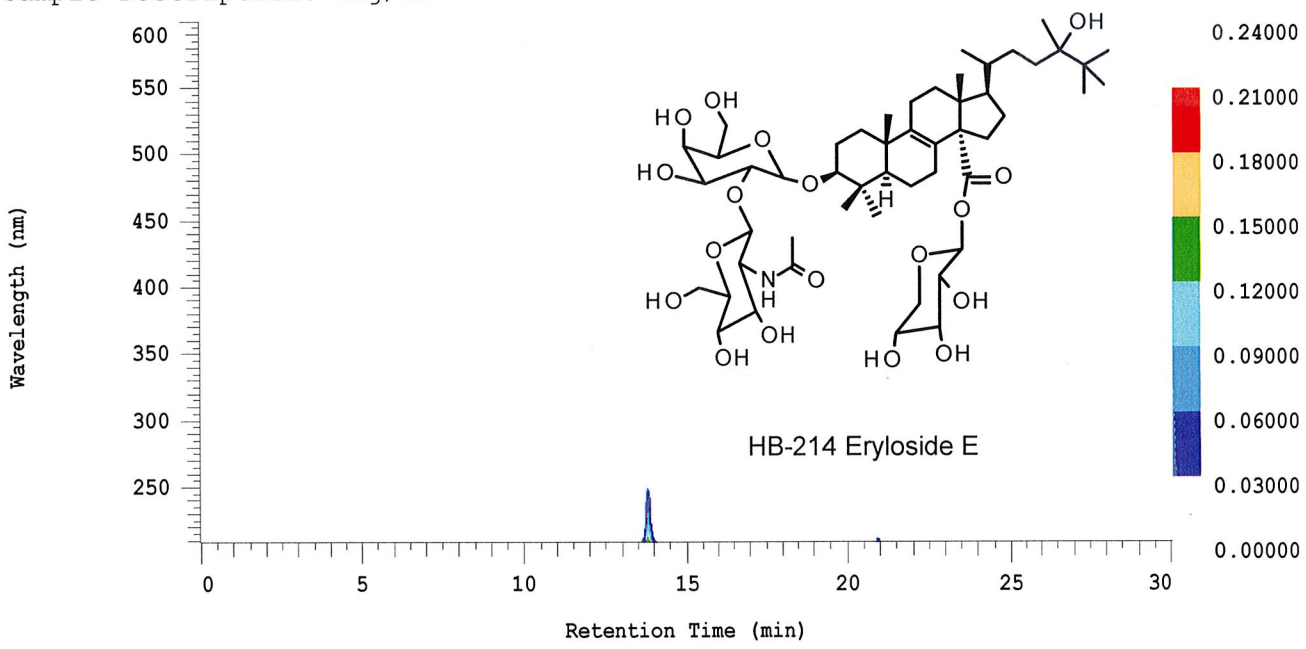
Figure S1. HPLC chromatogram with PDA and ELSD detection of Eryloside E

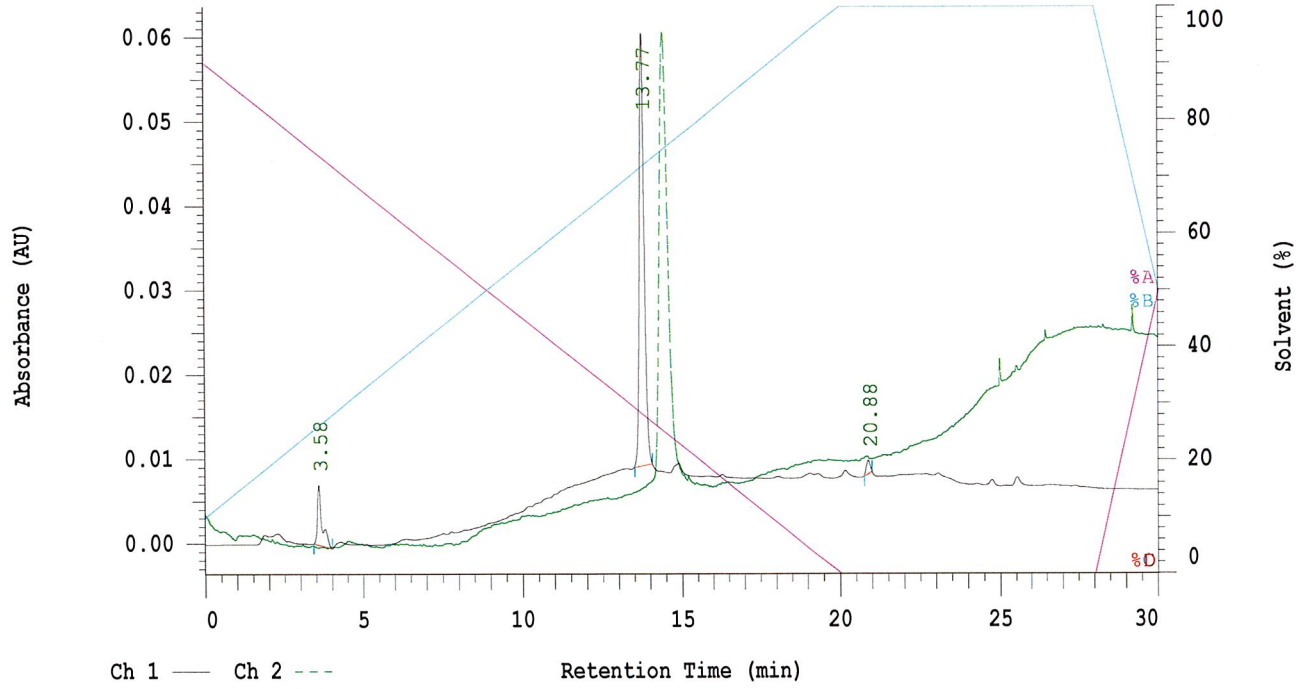
D-2000: JennSandle2017-2 Series: 0259 Report: original System: HPLC 1
018

D-2000 Elite HPLC System Manager Report

Analyzed: 09/13/2018 10:23 AM Reported: 09/13/2018 10:59 AM
Sample Name: HB-214
Sample Description: 1mg/ml



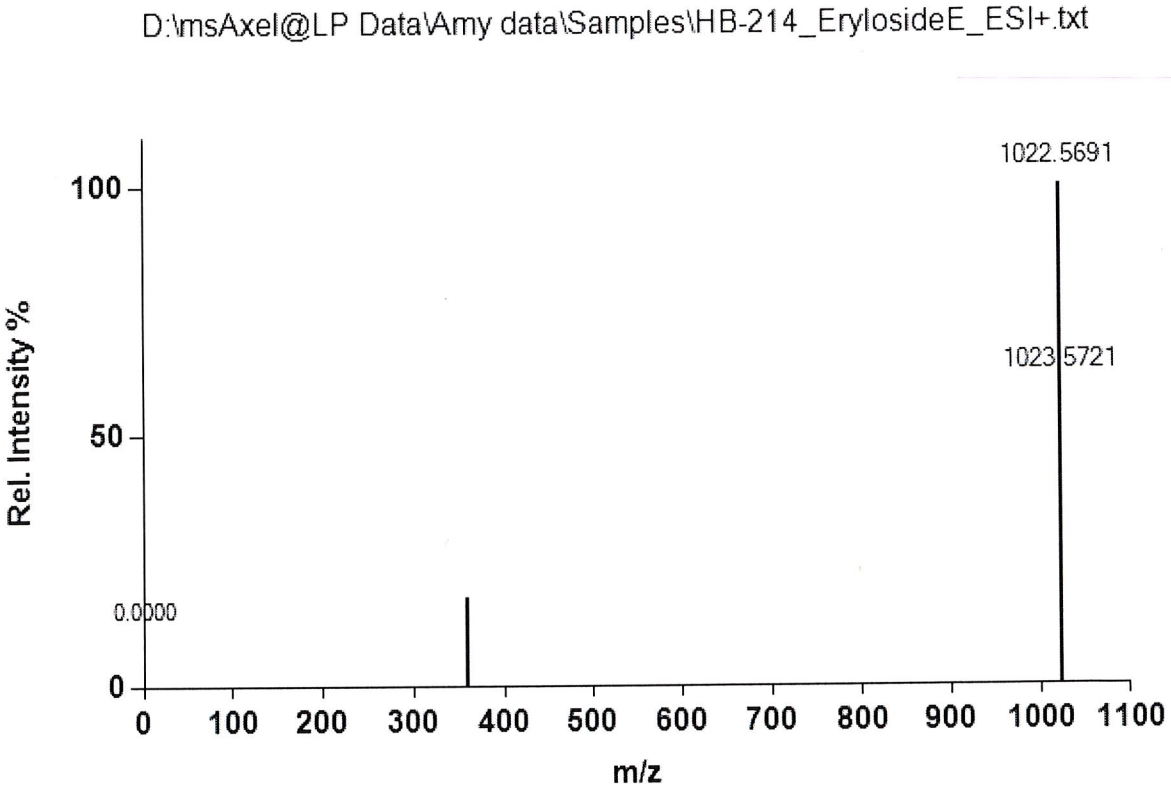
Channel 1 Chrom Type: Fixed WL Chromatogram, 230 nm



Acquisition Method: NOautosampler_30min_wELSD
Column Type: Vydac C18
Pump A Solvent A: H2O/5% ACN Pump A Solvent B: ACN
Method Description:

Figure S2. High resolution ESI positive ion mass spectrum of Eryloside E used in the study

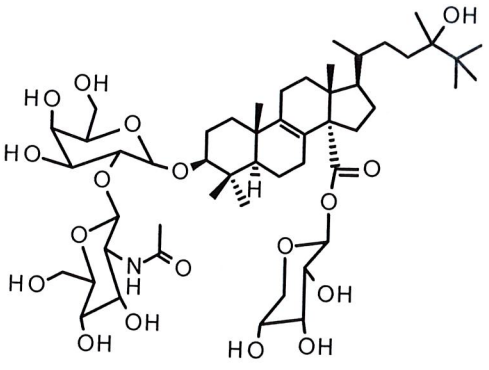
Elemental Compositions



Mass Spectrum

Elemental Compositions
Element Limits: C 0/51 H 0/86 O 0/20 N 0/1 Na 0/1
Tolerance: 10 mmuEven or odd electron ion or both: Even
Electron correction: None.Charges: 1
Minimum unsaturation: -1Maximum unsaturation: 100

Calc. m/z	Abund %	mmu	DBE	Composition
1022.566435	100.000	-2.66	9.5	C51H85O18N1Na1



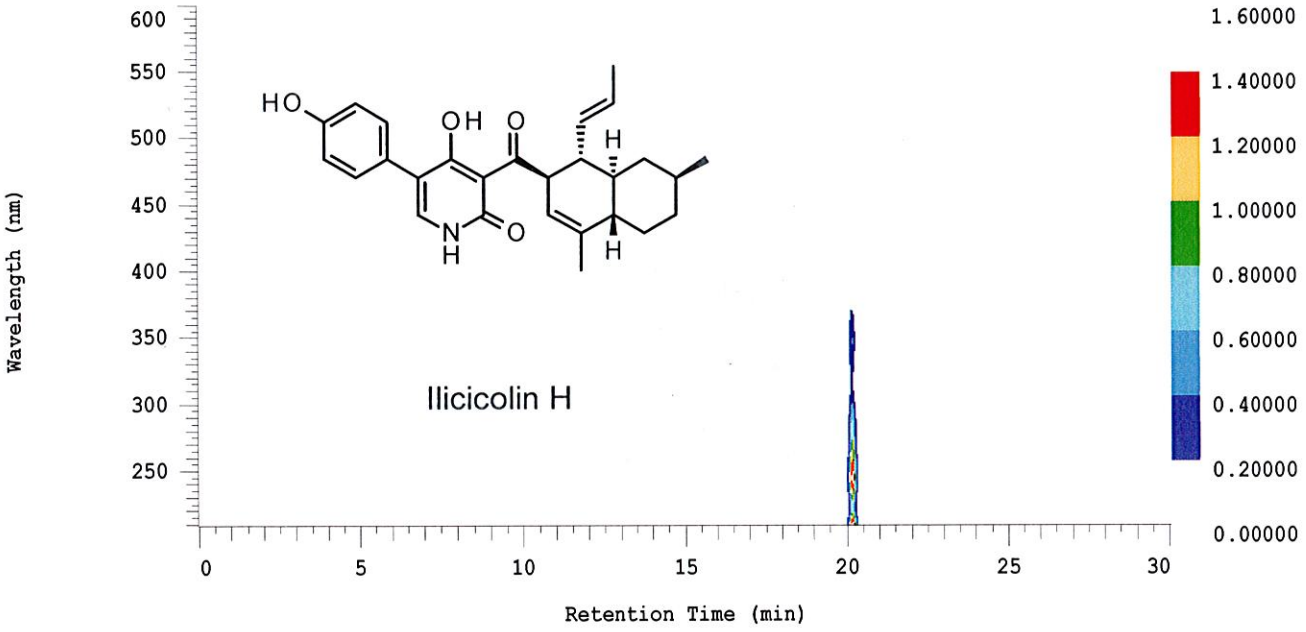
HB-214 Eryloside E
Formula Weight : 1000.22(4)
Formula : $C_{51}H_{85}NO_{18}$

Figure S3 HPLC chromatogram with PDA and ELSD detection of Ilicicolin H

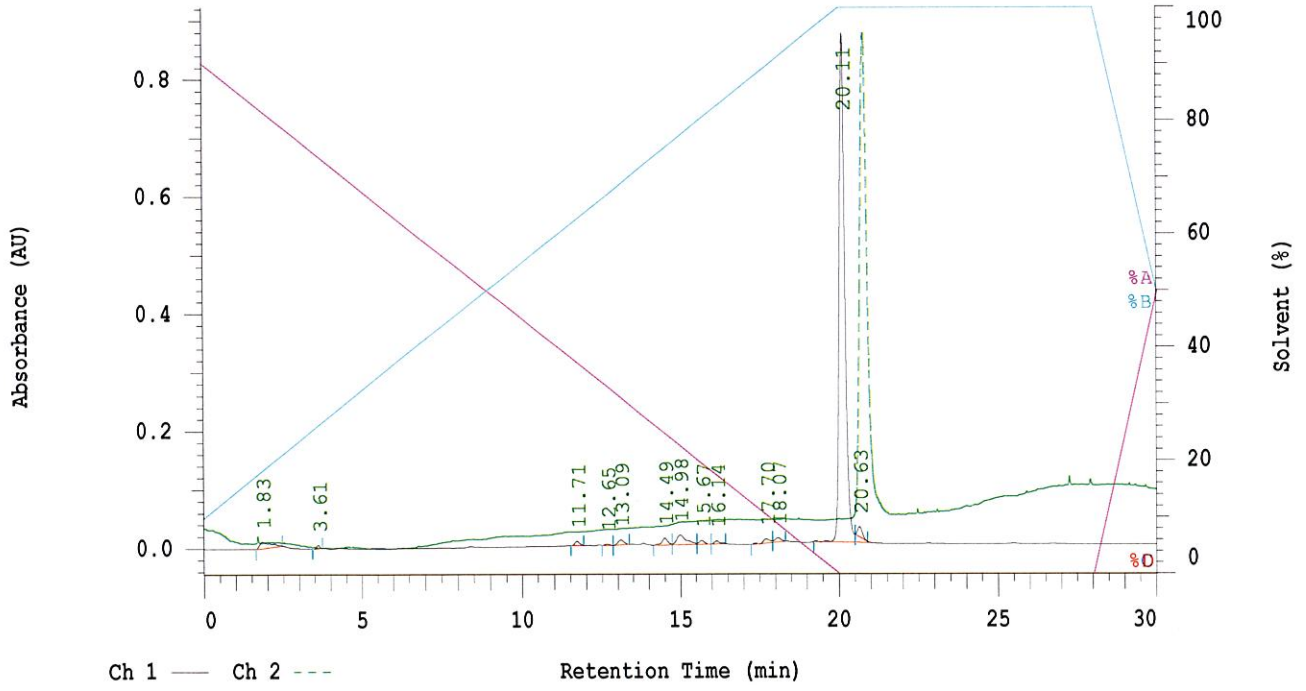
D-2000: JennSandle2017-2 Series: 0260 Report: original System: HPLC 1
018

D-2000 Elite HPLC System Manager Report

Analyzed: 09/13/2018 11:01 AM Reported: 09/13/2018 11:39 AM
Sample Name: HB-322
Sample Description: 1mg/ml



Channel 1 Chrom Type: Fixed WL Chromatogram, 230 nm

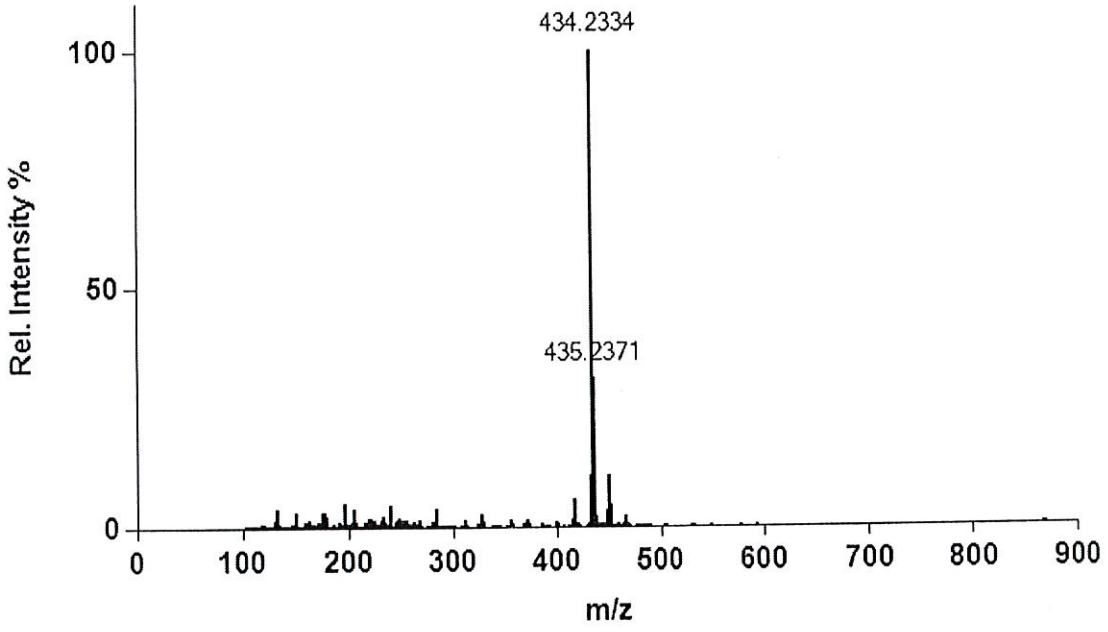


Acquisition Method: NOautosampler_30min_wELSD
Column Type: Vydac C18
Pump A Solvent A: H2O/5% ACN Pump A Solvent B: ACN
Method Description:

Figure S4. High resolution DART positive ion Mass spectrum of Ilicicolin H used in the study

Elemental Compositions

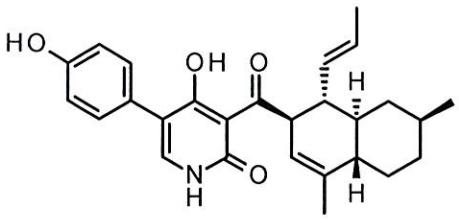
D:\msAxel@LP Data\Amy data\Samples\Hb-322Calibrated.txt



Mass Spectrum

Elemental Compositions
Element limits: C 0/28 H 0/33 O 0/5 N 0/1 Na 0/1
Tolerance: 10 mmuEven or odd electron ion or both: Even
Electron correction: None.Charges: 1
Minimum unsaturation: -1Maximum unsaturation: 100

Calc. m/z	Abund %	mmu	DBE	Composition
434.230728	100.000	-2.64	9.5	C25H33O4N1Na1
434.233133	100.000	-0.23	12.5	C27H32O4N1



Ilicicolin H

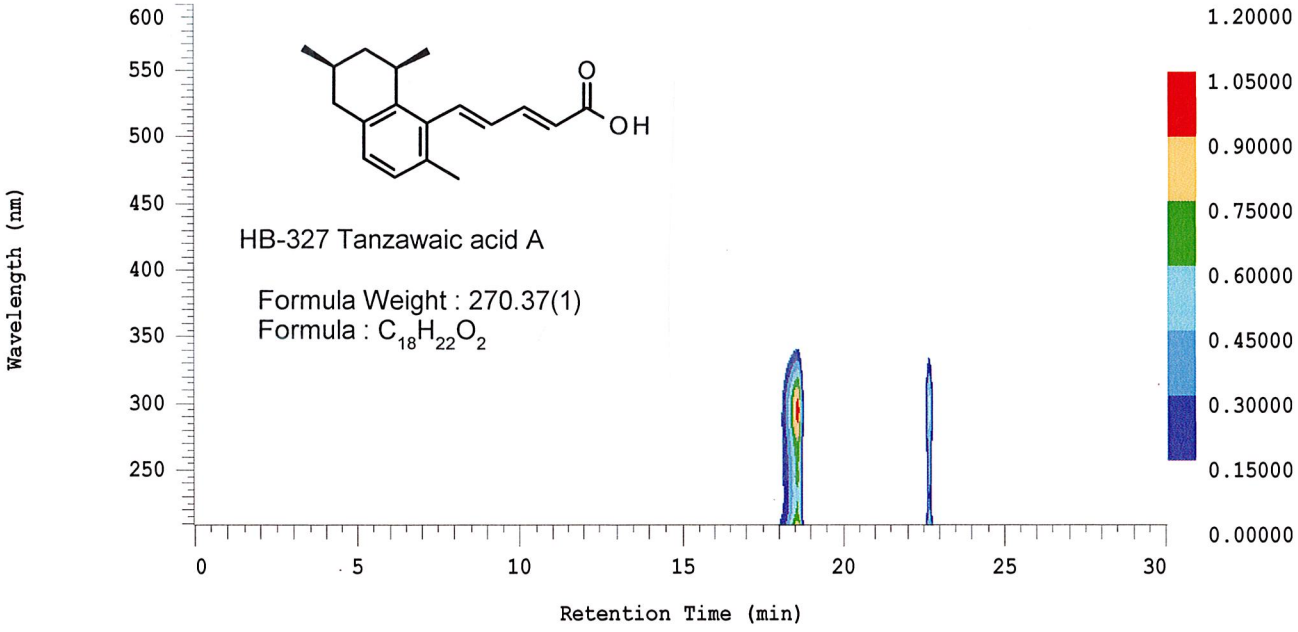
Formula Weight : 433.54(2)
Formula : $C_{27}H_{31}NO_4$

Figure S5. HPLC chromatogram with PDA and ELSD detection of Tanzawaic Acid A

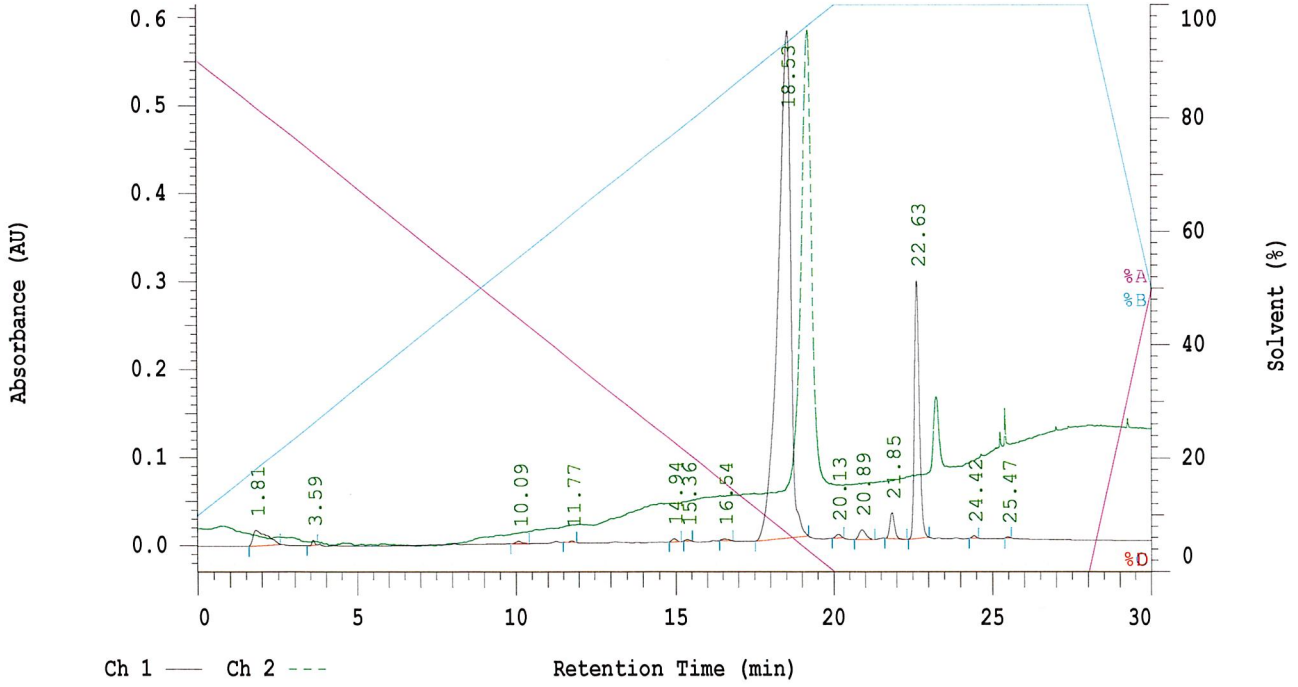
D-2000: JennSandle2017-2 Series: 0261 Report: original System: HPLC 1
018

D-2000 Elite HPLC System Manager Report

Analyzed: 09/13/2018 11:39 AM Reported: 09/13/2018 12:16 PM
Sample Name: HB-327
Sample Description: 1mg/ml



Channel 1 Chrom Type: Fixed WL Chromatogram, 230 nm

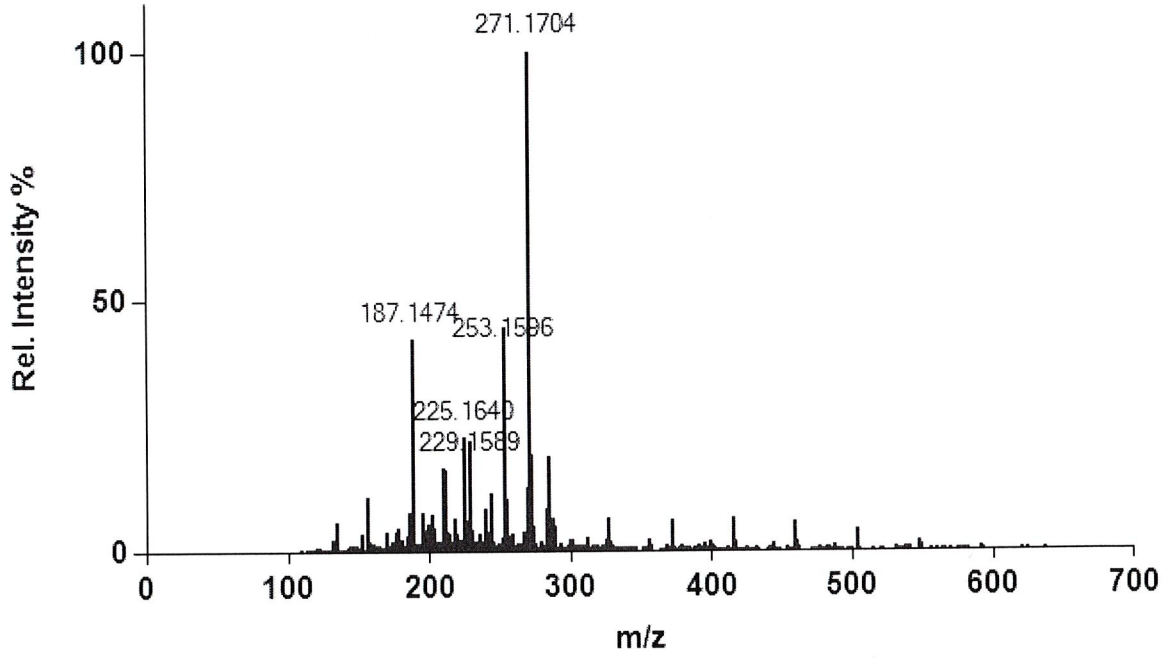


Acquisition Method: NOautosampler_30min_wELSD
Column Type: Vydac C18
Pump A Solvent A: H2O/5% ACN Pump A Solvent B: ACN
Method Description:

Figure S6. High resolution DART positive ion Mass spectrum of Tanzawaic Acid A used in the study

Elemental Compositions

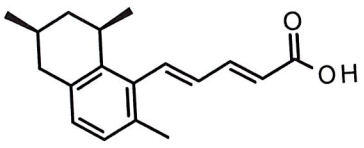
D:\msAxel@LP Data\Amy data\Samples\HB-327_tanzawaic Acid.txt



Mass Spectrum

Elemental Compositions
Element Limits: C 0/18 H 0/24 O 0/2 N 0/1 Na 0/1
Tolerance: 10 mmuEven or odd electron ion or both: Even
Electron correction: None.Charges: 1
Minimum unsaturation: -1Maximum unsaturation: 100

Calc. m/z	Abund %	mmu	DBE	Composition
271.167400	100.000	-2.98	4.5	C16H24O2Na1
271.169805	100.000	-0.57	7.5	C18H23O2



HB-327 Tanzawaic acid A

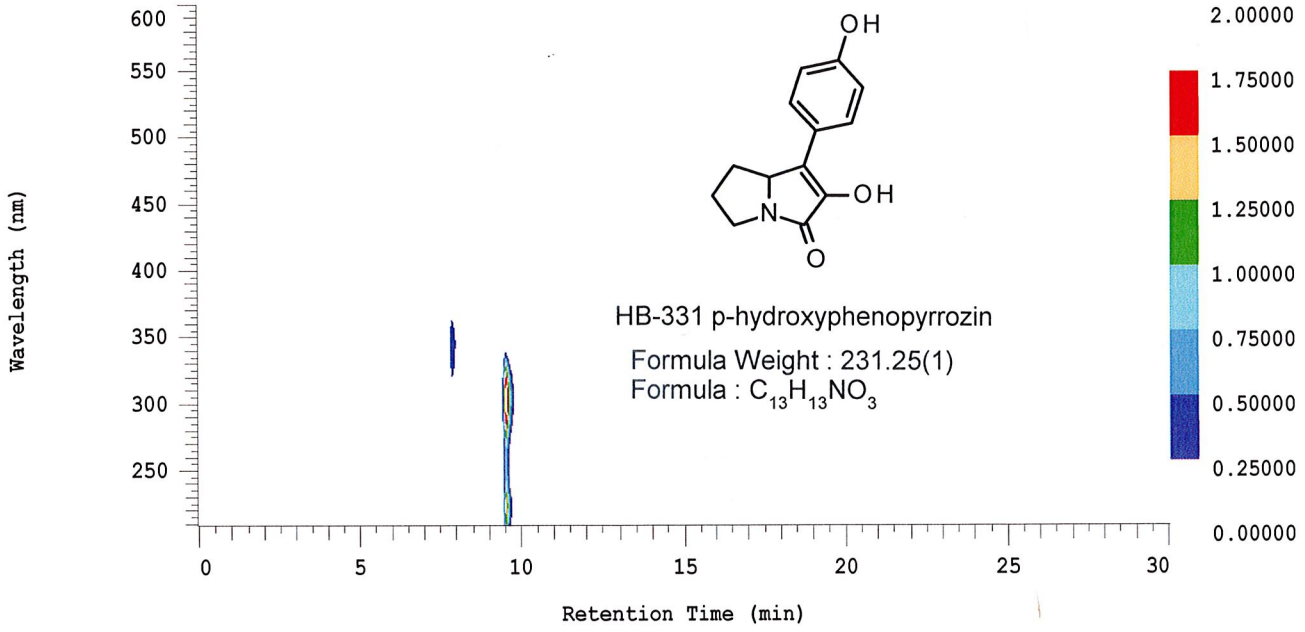
Formula Weight : 270.37(1)
Formula : $C_{18}H_{22}O_2$

Figure S7. HPLC chromatogram with PDA and ELSD detection of p-hydroyphenopyrrozin

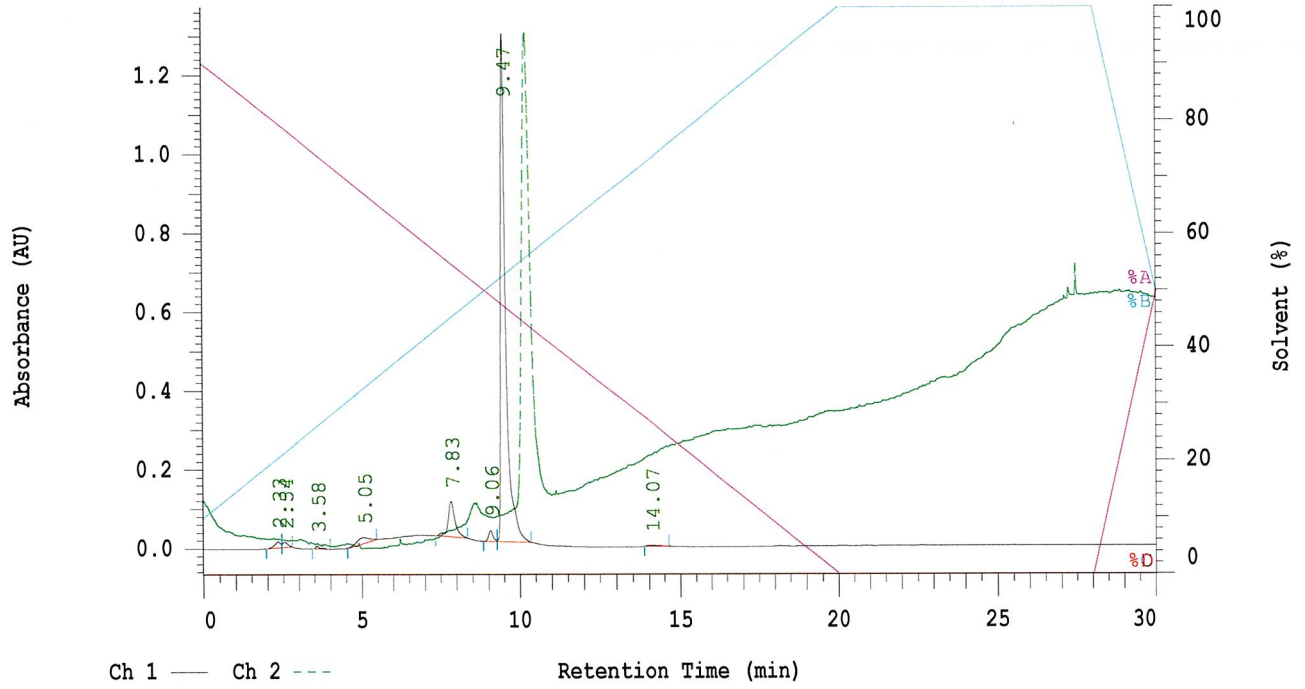
D-2000: JennSandle2017-2 Series: 0262 Report: original System: HPLC 1
018

D-2000 Elite HPLC System Manager Report

Analyzed: 09/13/2018 12:16 PM Reported: 09/13/2018 12:49 PM
Sample Name: HB-331
Sample Description: 1mg/ml



Channel 1 Chrom Type: Fixed WL Chromatogram, 230 nm

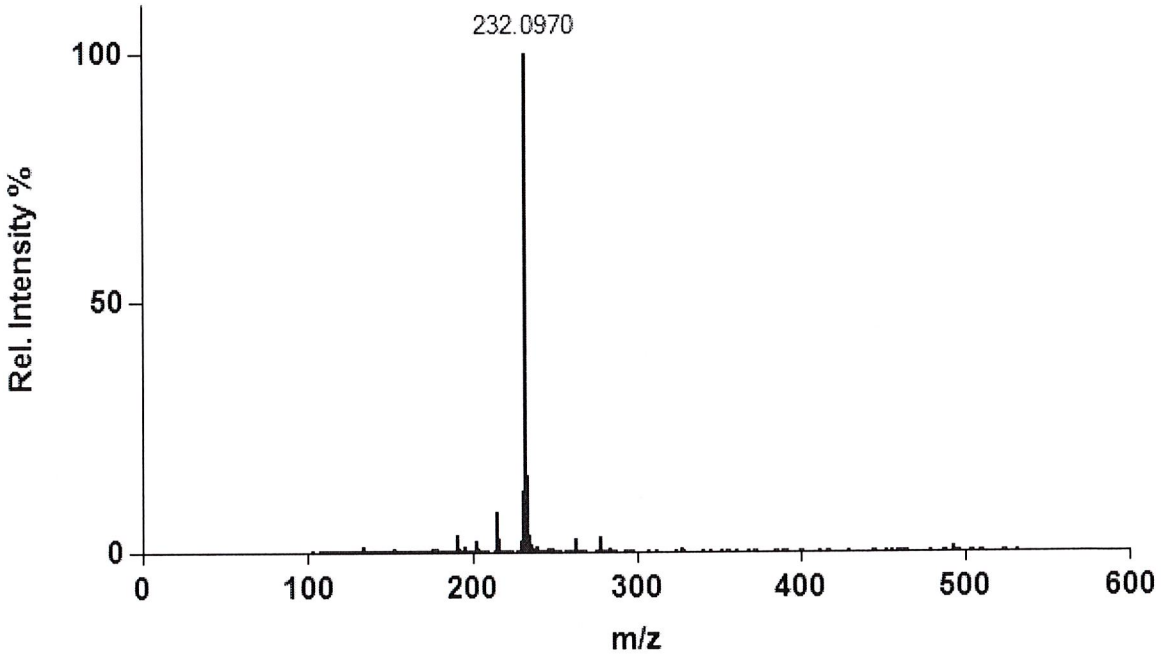


Acquisition Method: NOautosampler_30min_wELSD
Column Type: Vydac C18
Pump A Solvent A: H2O/5% ACN Pump A Solvent B: ACN
Method Description:

Figure S8. High resolution DART Mass spectrum of p-hydroxyphenopyrrozin used in the study

Elemental Compositions

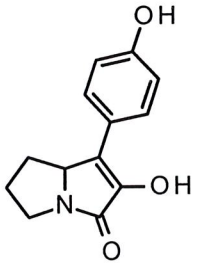
D:\msAxel@LP Data\Amy data\Samples\HB-331_tetrahydropyrrolin-3-one.txt



Mass Spectrum

Elemental Compositions
Element Limits: C 0/13 H 0/14 O 0/3 N 0/1 Na 0/1
Tolerance: 10 mmuEven or odd electron ion or both: Even
Electron correction: None.Charges: 1
Minimum unsaturation: -1Maximum unsaturation: 100

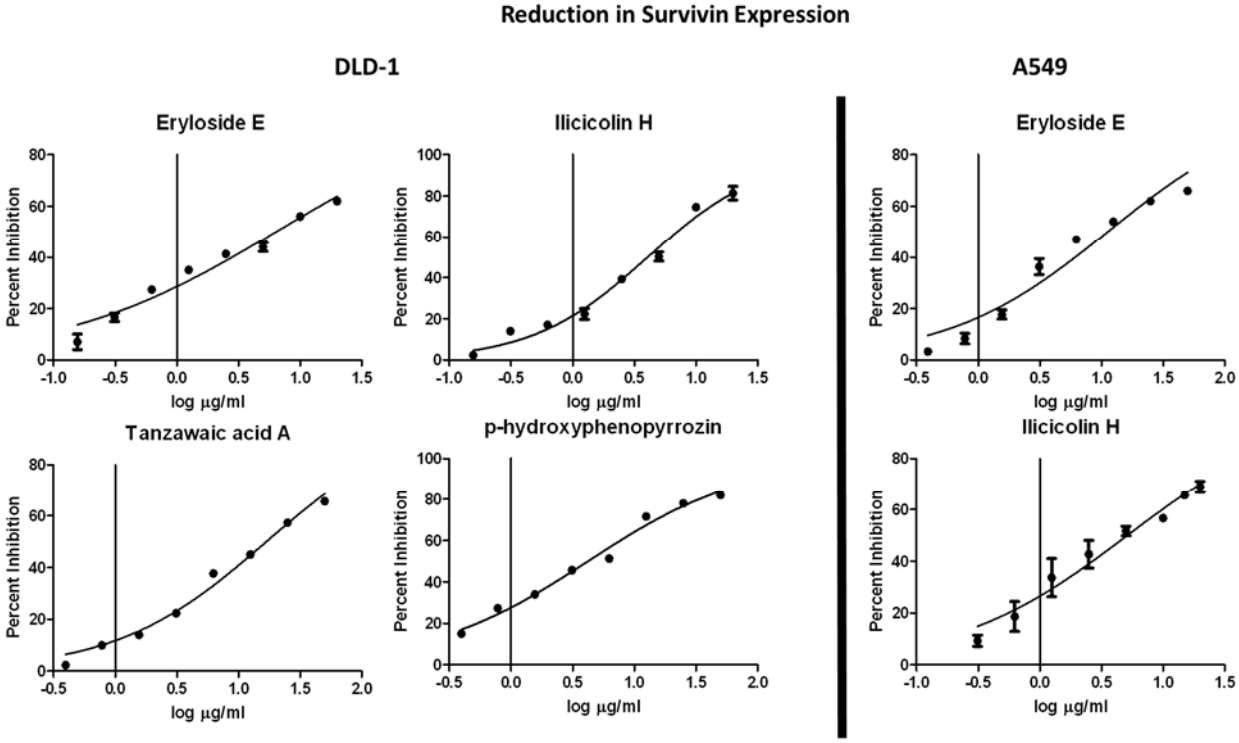
Calc. m/z	Abund %	mmu	DBE	Composition
232.097368	100.000	0.41	7.5	C13H14O3N1



HB-331 p-hydroxyphenopyrrozin

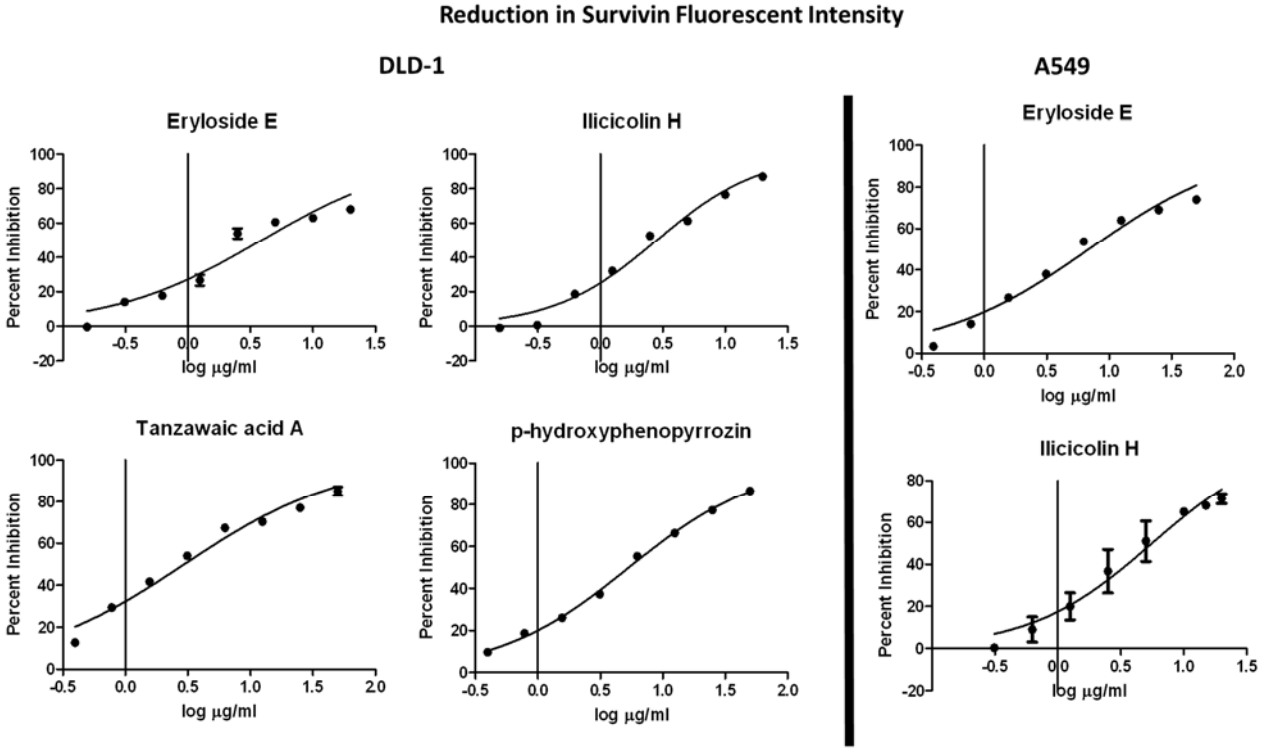
Formula Weight : 231.25(1)
Formula : $C_{13}H_{13}NO_3$

Figure S9.



EC_{50} Graphs for the Reduction in Survivin Expression. Serial dilutions ranging from 20 to 0.04 µg/mL marine compounds were tested in the screening assay. Survivin expression levels were normalized to methanol (vehicle control) to express them as a percentage and subjected to a non-linear regression curve fit analysis using GraphPad Prism. The graphs show the average of 3 experiments ± standard deviation.

Figure S10.



EC_{50} Graphs for the Reduction in Survivin Integrated Fluorescence Intensity. Serial dilutions ranging from 20 to 0.04 µg/mL marine compounds were tested in the screening assay. The integrated fluorescent intensity values for each concentration were normalized to methanol (vehicle control) to express them as a percentage and the values were subjected to a non-linear regression curve fit analysis using GraphPad Prism. The graphs show the average of 3 experiments ± standard deviation.

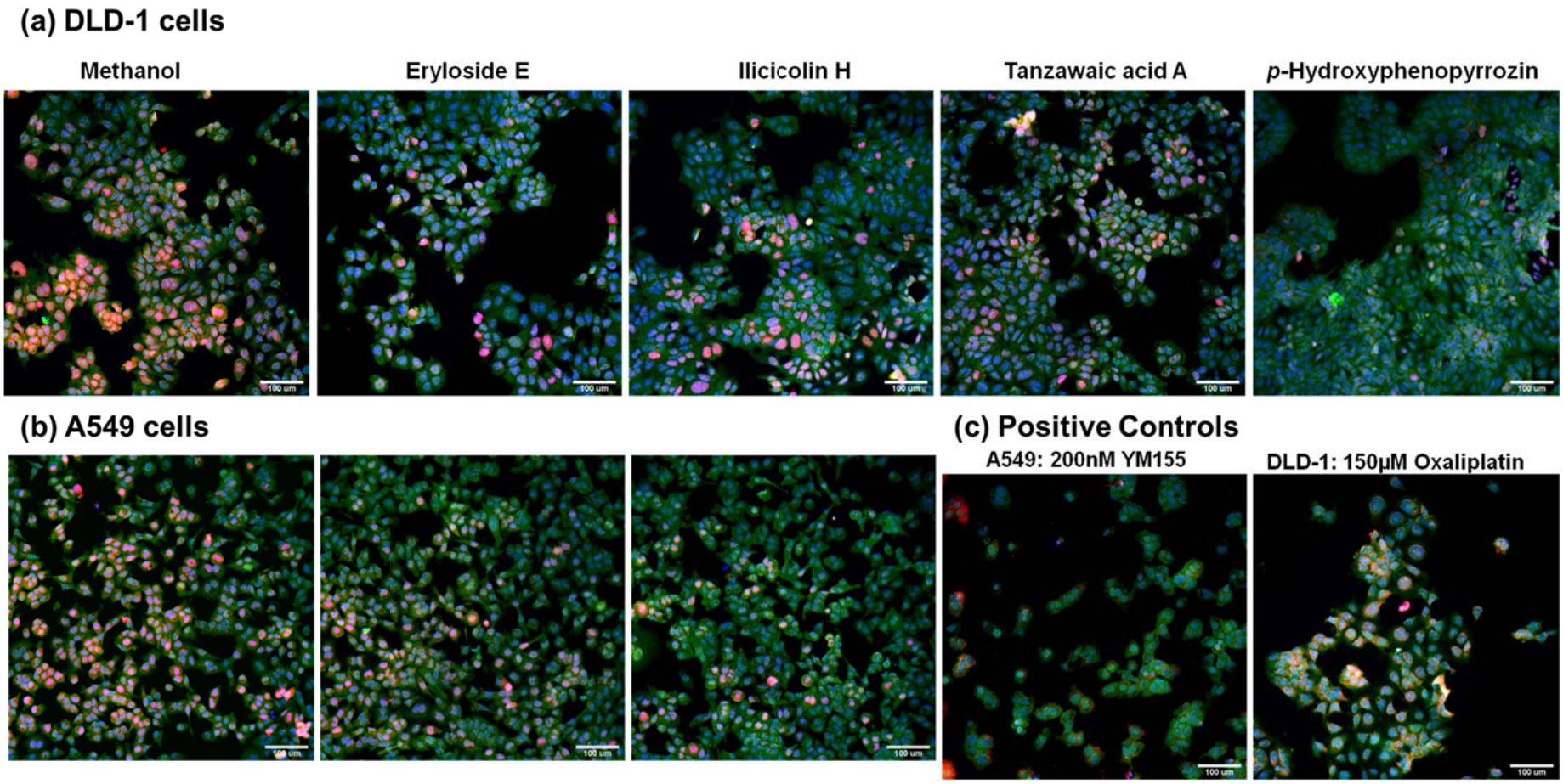
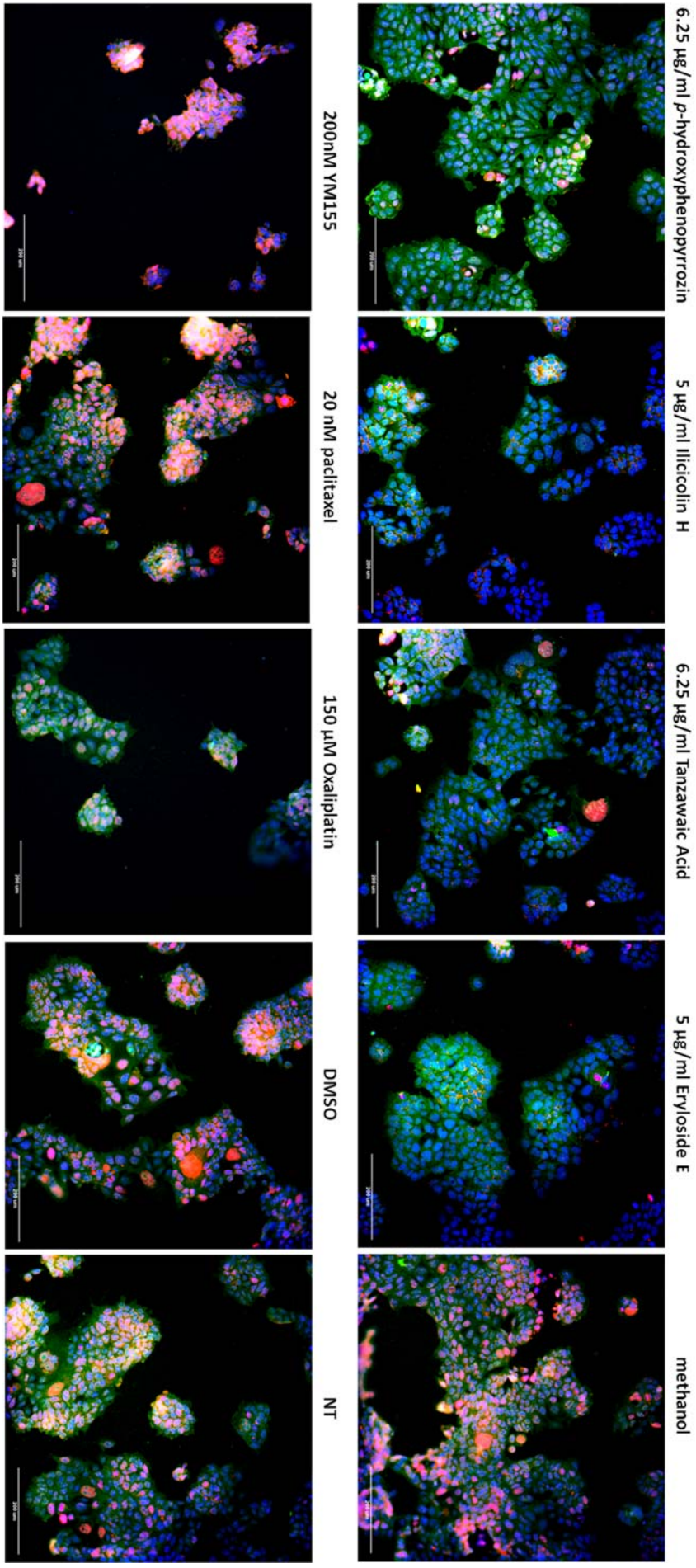

(a) DLD-1 cells
Methanol
Eryloside E
Ilicicolin H
Tanzawaic acid A
p-Hydroxyphenopyrrozin
(b) A549 cells
(c) Positive Controls
A549: 200nM YM155
DLD-1: 150μM Oxaliplatin

Figure S11.

Figure S12.


6.25 µg/ml p-hydroxyphenopyrrozin
5 µg/ml Ilicicolin H
6.25 µg/ml Tanzawaic Acid
5 µg/ml Eryloside E
methanol
200nM YM155
20 nM paclitaxel
150 µM Oxaliplatin
DMSO
NT