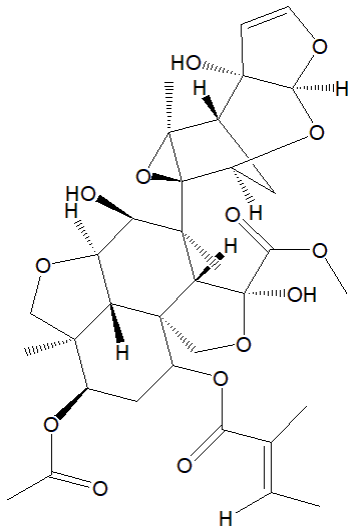


## Certificate of Analysis



<b>PRODUCT</b>	Azadirachtin D
<b>BATCH #</b>	PA 036-142-001
<b>ASSAY METHOD</b>	HPLC, <sup>1</sup> H-NMR
<b>REPORT DATE</b>	2019-02-01
<b>CHEMICAL NAME</b>	IUPAC: methyl (1~{S},4~{S},5~{R},6~{S},7~{S},8~{R},11~{R},12~{R},14~{S},15~{S})-12-acetyloxy-4,7-dihydroxy-6-[(1~{S},2~{S},6~{S},8~{S},9~{R},11~{S})-2-hydroxy-11-methyl-5,7,10-trioxatetracyclo[6.3.1.0 <sup>2,6</sup> .0 <sup>9,11</sup> ]]dodec-3-en-9-yl]-6,11-dimethyl-14-[(~{E})-2-methylbut-2-enyl]oxy-3,9-dioxatetracyclo[6.6.1.0 <sup>1,5</sup> .0 <sup>11,15</sup> ]]pentadecane-4-carboxylate
<b>CHEMICAL FORMULA</b>	C <sub>34</sub> H <sub>44</sub> O <sub>14</sub>
<b>MOLECULAR WEIGHT</b>	676.712
<b>CAS REG. #</b>	NA
<b>STORAGE</b>	Preferred: -20C in dark
<b>EXPIRATION DATE</b>	2024-02-02
<b>NOTES</b>	Secondary metabolite from neem.

### Analytical Data

TEST	METHOD	SPECIFICATION	RESULT
HPLC	217 nm	>97%	98.9%
1H-NMR		Conforms	Conforms
Appearance	NA	NA	White solid

Signed: Jan Glinski, Ph.D.  
 Planta Analytica LLC  
 February 01, 2019

