New α-Glucosidase Inhibiting Anthracenone from the Barks of *Harungana madagascariensis* Lam.

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**Abstract**

Two new 10-hydroxy-9(10H)-anthracenone, madagascenone A (1) and B (2) were isolated from the barks of *Harungana madagascariensis* Lam. The structures of the compounds were determined by using 1D- and 2D- NMR and mass spectroscopic techniques. Both of the compounds showed an *in vitro* α-glucosidase inhibition with IC\(_{50}\) = 69.9±4.21 and 122.3±1.13 μM, respectively, more potent than the standard acarbose (IC\(_{50}\) = 840±1.23 μM).

**Keywords:** *Harungana madagascariensis*, madagascenone A and B, α-Glucosidase Inhibition
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Table S1: $^{13}$C- and $^{1}$H-NMR chemical shift values of compounds 1 and 2 (ppm, MeOD and CDCl$_3$, 125 and 500 MHz), respectively.

| C. No. | $\delta$C | $\delta$H($J$, Hz) | $\delta$C | $\delta$H($J$, Hz) |
|-------|---------|----------------|---------|----------------|
| 1     | 164.7   | -              | 167.3   | -              |
| 2     | 103.0   | 6.32 s         | 98.1    | 6.42 s         |
| 3     | 161.7   | -              | 167.0   | -              |
| 4     | 122.6   | -              | 117.3   | -              |
| 4a    | 148.6   | -              | 137.1   | -              |
| 5     | 119.8   | 6.77 s         | 129.4   | -              |
| 6     | 141.2   | -              | 147.9   | -              |
| 7     | 132.2   | -              | 119.9   | 6.83 s         |
| 8     | 161.7   | -              | 161.1   | -              |
| 8a    | 121.5   | -              | 112.7   | -              |
| 9     | 193.3   | -              | 191.4   | -              |
| 9a    | 113.7   | -              | 108.5   | -              |
| 10    | 61.7    | 5.84 s         | 61.8    | 5.80 s         |
| 10a   | 143.7   | -              | 143.3   | -              |
| 11    | 24.6    | 3.50 d (6.1)   | 27.2    | 3.35 d (6.2)   |
| 12    | 124.2   | 4.96 t (6.1)   | 122.9   | 5.03 t (6.2)   |
| 13    | 132.3   | -              | 131.6   | -              |
| 14    | 18.1    | 1.82 s         | 18.1    | 1.84 s         |
| 15    | 26.0    | 1.70 s         | 26.3    | 1.32 s         |
| 16    | 27.9    | 3.75 d (6.2)   | 29.7    | 3.08 dd (7.6, 15.7) |
|       |         |                |         | 3.75 dd (9.0, 15.7) |
| 17    | 124.5   | 5.07 t (6.2)   | 94.8    | 4.57 dd (7.6, 9.0) |
| 18    | 133.1   | -              | 78.2    | -              |
| 19    | 17.9    | 1.85 s         | 24.7    | 1.23 s         |
| 20    | 25.9    | 1.75 s         | 25.6    | 1.70 s         |
| 21    | 20.9    | 2.31 s         | 64.1    | 3.68 q (6.5)   |
| 22    | -       | -              | 15.2    | 1.34 t (6.5)   |
| 23    | -       | -              | 20.9    | 2.33 s         |
| 1-OH | -       | 12.39 s        | -       | 12.26 s        |
| 8-OH | -       | 12.30 s        | -       | 12.21 s        |
Figure S1: Key HMBC correlations of compound 1 and 2.

Figure S2: Key NOESY correlations of compounds 1 and 2.
Figure S3: FAB (\textsuperscript{Ve}) MS spectrum of compound 1 (madagascanthranol A)

Figure S4: FAB (\textsuperscript{Ve}) MS Spectrum of Compound 1
Figure S5: $^1$H-NMR (500 MHz, MeOD) spectrum of compound 1.
Figure S6: $^{13}$C-NMR (125 MHz, MeOD) spectrum of compound 1.
Figure S7: HSQC spectrum of compound 1.
Figure S8: HMBC spectrum of compound 1.

Figure S9: FAB (-Ve) MS spectrum of compound 2
**Figure S10**: $^1$H-NMR (500 MHz, CDCl$_3$) spectrum of compound 2.
Figure S11: $^{13}$C-NMR (150 MHz, CDCl$_3$) spectrum of compound 2.
Figure S12: HSQC spectrum of compound 2.
Figure S13: HMBC spectrum of compound 2.