SUPPLEMENTARY MATERIAL

Xanthones from the green branch of *Garcinia dulcis*

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Abstract

Two new prenylated xanthones named dulcisxanthone H and dulcisxanthone I, along with garciniaxanthone C were isolated from the dichloromethane extract of the green branch of *Garcinia dulcis*. Their structures were elucidated by analysis of 1D and 2D NMR spectral data. Their antibacterial activities were also examined.

Keywords: Clusiaceae; *Garcinia dulcis*; prenylated xanthones, antibacterial

Table S1. The \ce{^{13}C}, \ce{^{1}H} NMR and HMBC spectral data (CDCl\ce{\textsubscript{3}}) of dulcisxanthone H (1).

| Positions | \( \delta_C \) | \( \delta_H \) (mult., \( J_{HZ} \)) | HMBC |
|-----------|----------------|---------------------------------|-------|
| 1         | 155.2          | -                               | -     |
| 2         | 107.0          | 6.49 (s)                        | C-1, C-4, C-9a, C-4' |
| 3         | 128.7          | -                               | -     |
| 4         | 131.8          | -                               | -     |
| 4a        | 142.5          | -                               | -     |
| 5         | 142.5          | -                               | -     |
| 6         | 135.3          | -                               | -     |
| 7         | 125.1          | 7.15 \( (d, J = 8.4) \)         | C-5, C-8a, C-1'' |
| 8         | 115.8          | 7.68 \( (d, J = 8.4) \)         | C-6, C-9, C-10a |
| 8a        | 119.1          | -                               | -     |
| 9         | 181.8          | -                               | -     |
Table S1. The $^{13}$C, $^1$H NMR and HMBC spectral data (CDCl$_3$) of dulcisxanthone H (1) (continued).

| Positions | $\delta_C$ | $\delta_H$ (mult., $J_{HZ}$) | HMBC                          |
|-----------|------------|-------------------------------|-------------------------------|
| 9a        | 108.5      | -                             | -                             |
| 10a       | 144.4      | -                             | -                             |
| 2'        | 77.1       | -                             | -                             |
| 3'        | 135.9      | 5.91 (d, $J = 9.9$)           | C-3, C-2', CH$_3$-2'          |
| 4'        | 122.2      | 6.37 (d, $J = 9.9$)           | C-2, C-3, C-4, C-2'           |
| 1"        | 28.8       | 3.50 (d, $J = 7.5$)           | C-5, C-6, C-7, C-2", C-3"    |
| 2"        | 120.9      | 5.35 (br t, $J = 7.5$)        | -                             |
| 3"        | 133.9      | -                             | -                             |
| 4"        | 25.8       | 1.76 (s)                      | C-2", C-3", C-5"             |
| 5"        | 17.9       | 1.76 (s)                      | C-2", C-3", C-4"             |
| 1-OH      | -          | 12.34 (s)                     | C-1, C-2, C-9a                |
| 2'-CH$_3$ | 27.4       | 1.53 (s)                      | C-2', C-3', CH$_3$-2'         |
Table S2. The $^{13}$C, $^1$H NMR and HMBC spectral data (acetone-$d_6$) of dulcissxanthone I (2).

| Positions | $\delta_C$ | $\delta_H$ (mult., $J_{HZ}$) | HMBC                      |
|-----------|------------|-----------------------------|---------------------------|
| 1         | 150.2      | -                           |                           |
| 2         | 122.5      | -                           |                           |
| 3         | 124.3      | 7.21 (s)                    | C-1, C-4, C-4a, C-1’      |
| 4         | 136.6      | -                           |                           |
| 4a        | 141.8      | -                           |                           |
| 5         | 92.7       | 6.55 (d, $J = 2.4$)         | C-6, C-7, C-8a, C-10a     |
| 6         | 167.6      | -                           |                           |
| 7         | 97.2       | 6.36 (d, $J = 2.4$)         | C-5, C-6, C-8, C-8a       |
| 8         | 163.0      | -                           |                           |
| 8a        | 103.5      | -                           |                           |
| 9         | 185.1      | -                           |                           |
| 9a        | 107.1      | -                           |                           |
| 10a       | 157.9      | -                           |                           |
| 1’        | 26.5       | 3.33 (d, $J = 7.5$)         | C-1, C-2’, C-3’           |
| 2’        | 121.9      | 5.33 (br t, $J = 7.5$)      |                           |
| 3’        | 132.6      | -                           |                           |
| 4’        | 24.9       | 1.74 (s)                    | C-2’, C-3’, C-5’          |
| 5’        | 16.9       | 1.74 (s)                    | C-2’, C-3’, C-4’          |
| 1-OH      | -          | 11.46 (s)                   | C-1, C-2, C-9a            |
| 4-OH      | -          | 8.65 (s)                    |                           |
| 8-OH      | -          | 12.02 (s)                   |                           |
| 6-OCH$_3$ | 55.7       | 3.97 (s)                    | C-6                      |
Table S3. The $^{13}$C, $^1$H NMR and HMBC spectral data (acetone-$d_6$) of garciniaxanthone C (3).

| Positions | $\delta_C$ | $\delta_H$ (mult., $J_{HZ}$) | HMBC                  |
|-----------|------------|-------------------------------|-----------------------|
| 1         | 153.5      | -                             | -                     |
| 2         | 110.0      | 6.59 (s)                      | C-1, C-3, C-9a, C-1'  |
| 3         | 134.8      | -                             | -                     |
| 4         | 138.1      | -                             | -                     |
| 4a        | 142.7      | -                             | -                     |
| 5         | 143.2      | -                             | -                     |
| 6         | 135.2      | -                             | -                     |
| 7         | 125.1      | 7.24 ($d$, $J = 8.4$)         | C-5, C-8a, C-1''      |
| 8         | 115.2      | 7.64 ($d$, $J = 8.4$)         | C-6, C-9, C-10a       |
| 8a        | 119.2      | -                             | -                     |
| 9         | 182.0      | -                             | -                     |
| 9a        | 106.7      | -                             | -                     |
| 10a       | 144.6      | -                             | -                     |
| 1'        | 28.7       | 3.47 ($d$, $J = 7.5$)         | C-2, C-4, C-2', C-3'  |
| 2'        | 121.3      | 5.36 ($br t$, $J = 7.5$)      | C-4', C-5'            |
| 3'        | 133.2      | -                             | -                     |
| 4'        | 25.1       | 1.75 (s)                      | C-2', C-3', C-5'      |
| 5'        | 17.1       | 1.75 (s)                      | C-2', C-3', C-4'      |
| 1''       | 28.5       | 3.52 ($d$, $J = 7.5$)         | C-5, C-7, C-2'', C-3''|
| 2''       | 121.4      | 5.36 ($br t$, $J = 7.5$)      | C-4'', C-5''          |
| 3''       | 133.1      | -                             | -                     |
| 4''       | 25.1       | 1.74 (s)                      | C-2'', C-3'', C-5''   |
| 5''       | 17.1       | 1.76 (s)                      | C-2'', C-3'', C-4''   |
| 1-OH      | -          | 11.96 (s)                     | C-1, C-2, C-9a        |
Figure S1. $^1$H NMR (CDCl$_3$, 300 MHz) spectrum of dulcisxanthone H (1).

Figure S2. $^{13}$C NMR (CDCl$_3$, 75 MHz) spectrum of dulcisxanthone H (1).
**Figure S3.** DEPT 90° (CDCl$_3$) spectrum of dulcisxanthone H (1).

**Figure S4.** DEPT 135° (CDCl$_3$) spectrum of dulcisxanthone H (1).
Figure S5. 2D HMQC (CDCl₃) spectrum of dulcisxanthone H (1).

Figure S6. 2D HMBC (CDCl₃) spectrum of dulcisxanthone H (1).
**Figure S7.** $^1$H NMR (acetone-$d_6$, 300 MHz) spectrum of dulcisxanthone I (2).

**Figure S8.** $^{13}$C NMR (acetone-$d_6$, 75 MHz) spectrum of dulcisxanthone I (2).
**Figure S9.** 2D HMQC (acetone-\(d_6\)) spectrum of dulcisxanthone I (2).

**Figure S10.** 2D HMBC (acetone-\(d_6\)) spectrum of dulcisxanthone I (2).
Figure S11. NOE (acetone-$d_6$) spectrum of dulcisxanthone I (2).

Figure S12. $^1$H NMR (acetone-$d_6$, 300 MHz) spectrum of garciniaxanthone C (3).
Figure S13. $^{13}$C NMR (acetone-$d_6$, 75 MHz) spectrum of garciniaxanthone C (3).

Figure S14. 2D HMBC (acetone-$d_6$) spectrum of garciniaxanthone C (3).