Supporting Information:

**Chemical constituents from the bark of *Garcinia oblongifolia***

Yutong Han†, Xingyu Li‡, Chaonan Yuan¹, Ronghui Gu¹, Edward J. Kennelly¹,³, Chunlin Long¹,⁴,⁵*

¹College of Life and Environmental Sciences, Minzu University of China, Beijing 100081, China.

²College of Science, Yunnan Agricultural University, Yunnan 650203, China.

³Department of Biological Sciences, Lehman College, City University of New York, Bronx, NY 10468, USA.

⁴Key Laboratory of Ethnomedicine (Minzu University of China), Ministry of Education, Beijing 100081, China.

⁵Kunming Institute of Botany, Chinese Academy of Sciences, Kunming 650201, China.

†The authors Yutong Han and Xingyu Li contributed equally to the work.

*Corresponding Author: Chunlin Long, College of Life and Environmental Sciences, Minzu University of China, Beijing 100081, China. e-mail: long@mail.kib.ac.cn, or long.chunlin@muc.edu.cn.
Supporting Information of Chemical Constituents from the Bark of *Garcinia oblongifolia*

**Content**

**Figure S1.** The HRESIMS spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone. (5) ......................................................... 4

**Figure S2.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone. (5) .................................................................................. 5

**Figure S3.** The $^1$H NMR spectrum (800 MHz, MeOD) of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone. (5) .................................................................................. 5

**Figure S4.** The HSQC spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone (5) ............................................................................. 6

**Figure S5.** The HMBC spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone (5) ............................................................................. 6

**Figure S6.** The COSY spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone (5) ............................................................................. 7

**Figure S7.** The ROESY spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone (5) ............................................................................. 7

**Figure S8.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of 1,2,5-Trihydroxy-6-methoxyxanthone (1) .................................................................................. 8

**Figure S9.** The $^1$H NMR spectrum (800 MHz, MeOD) of 1,2,5-Trihydroxy-6-methoxyxanthone (1) .................................................................................. 8

**Figure S10.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of 1,3,6,7-tetrahydroxy-2,5-bis(3-methylbut-2-enyl)xanthen-9-one (2) .................................................................................. 9

**Figure S11.** The $^1$H NMR spectrum (800 MHz, MeOD) of 1,3,6,7-tetrahydroxy-2,5-bis(3-methylbut-2-enyl)xanthen-9-one (2) .................................................................................. 9

**Figure S12.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of xanthone V1 (3) .................................................................................. 10

**Figure S13.** The $^1$H NMR spectrum (800 MHz, MeOD) of xanthone V1 (3) .................................................................................. 10

**Figure S14.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of isojacareubin (4) .................................................................................. 11

**Figure S15.** The $^1$H NMR spectrum (800 MHz, MeOD) of isojacareubin (4) .................................................................................. 11

**Figure S16.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of methyl protocatechuate. (6) .................................................................................. 12

**Figure S17.** The $^1$H NMR spectrum (800 MHz, MeOD) of methyl protocatechuate. (6) .................................................................................. 12

**Figure S18.** The $^{13}$C NMR and DEPT spectrum (125 MHz, MeOD) of isoxanthochymol (7) .................................................................................. 13

**Figure S19.** The $^1$H NMR spectrum (500 MHz, MeOD) of isoxanthochymol (7) .................................................................................. 13

**Figure S20.** The HRESIMS spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) euxanthone (8) .................................................................................. 14

**Figure S21.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of euxanthone (8) .................................................................................. 15

**Figure S22.** The $^1$H NMR spectrum (800 MHz, MeOD) of euxanthone (8) .................................................................................. 15

**Figure S23.** The $^{13}$C NMR spectrum (200 MHz, MeOD) of protocatechuic acid (9) .................................................................................. 16
Figure S24. The $^1$H NMR spectrum (800 MHz, MeOD) of protocatechuic acid (9) ...................... 16
**Figure S1.** The HRESIMS spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone. (5)
Figure S2. The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of 1, 3, 8-trihydroxy-6', 6'-dimethylpyraño (2', 3': 5, 6) xanthone. (5)

Figure S3. The $^1$H NMR spectrum (800 MHz, MeOD) of 1, 3, 8-trihydroxy-6', 6'-dimethylpyraño (2', 3': 5, 6) xanthone. (5)
Figure S4. The HSQC spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone (5).

Figure S5. The HMBC spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone (5).
Figure S6. The COSY spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone (5).

Figure S7. The ROESY spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) xanthone (5).
Figure S8. The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of 1,2,5-Trihydroxy-6-methoxyxanthone (1)

Figure S9. The $^1$H NMR spectrum (800 MHz, MeOD) of 1,2,5-Trihydroxy-6-methoxyxanthone (1)
Figure S10. The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of 1,3,6,7-tetrahydroxy-2,5-bis(3-methylbut-2-enyl)xanthen-9-one (2)

Figure S11. The $^1$H NMR spectrum (800 MHz, MeOD) of 1,3,6,7-tetrahydroxy-2,5-bis(3-methylbut-2-enyl)xanthen-9-one (2)
Figure S12. The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of xanthone V1 (3)

Figure S13. The $^1$H NMR spectrum (800 MHz, MeOD) of xanthone V1 (3)
Supporting Information of Chemical Constituents from the Bark of *Garcinia oblongifolia*

**Figure S14.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of isojacareubin (4)

**Figure S15.** The $^1$H NMR spectrum (800 MHz, MeOD) of isojacareubin (4)
**Figure S16.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of methyl protocatechuate. (6)

**Figure S17.** The $^1$H NMR spectrum (800 MHz, MeOD) of methyl protocatechuate. (6)
**Supporting Information of Chemical Constituents from the Bark of *Garcinia oblongifolia***

**Figure S18.** The $^{13}$C NMR and DEPT spectrum (125 MHz, MeOD) of isoxanthochymol (7)

**Figure S19.** The $^1$H NMR spectrum (500 MHz, MeOD) of isoxanthochymol (7)
Supporting Information of Chemical Constituents from the Bark of *Garcinia oblongifolia*

**Figure S20.** The HRESIMS spectrum of 1, 3, 8-trihydroxy-6', 6'-dimethylpyrano (2', 3': 5, 6) euxanthone (8)

### Qualitative Analysis Report

| Data Filename | 171102ESIA27.d  |
|---------------|-----------------|
| Sample Type   | Sample          |
| Instrument Name | Agilent G6230 TOF MS |
| Acq Method    | ESI/m           |
| IRM Calibration Status | Success |
| Comment       |                 |
| Sample Group  | Info.           |
| Acquisition SW | 6200 series TOF/6900 series |
| Version       | Q-TOF B.05.01 (B0.23.2) |

### User Spectra

![Image of HRESIMS spectrum](image)

### Peak List

| m/z   | Intensity |
|-------|-----------|
| 107.061 | 1         |
| 123.992 | 1         |
| 141.019 | 1         |
| 148.055 | 1         |
| 162.078 | 1         |
| 179.090 | 1         |
| 187.091 | 1         |
| 203.099 | 1         |
| 229.0497| 1         |

### Formula Calculator Element Limits

| Element | Min | Max |
|---------|-----|-----|
| C       | 0   | 200 |
| H       | 0   | 480 |
| O       | 0   | 10  |

### Formula Calculator Results

| Formula  | Calculated Mass | Mz     | Diff. (Da) | Diff. (ppm) | DBF |
|----------|-----------------|--------|------------|-------------|-----|
| C13 H9 O4 | 229.0501        | 229.0497| 0.4        | 1.7         | 9.5 |

--- End Of Report ---
**Figure S21.** The $^{13}$C NMR and DEPT spectrum (200 MHz, MeOD) of euxanthone (8)

**Figure S22.** The $^1$H NMR spectrum (800 MHz, MeOD) of euxanthone (8)
Supporting Information of Chemical Constituents from the Bark of *Garcinia oblongifolia*

**Figure S23.** The $^{13}$C NMR spectrum (200 MHz, MeOD) of protocatechuic acid (9)

**Figure S24.** The $^1$H NMR spectrum (800 MHz, MeOD) of protocatechuic acid (9)