Supporting Information

Indole Derivatives Produced by the Metagenome Genes of the Escherichia coli-Harboring Marine Sponge Discodermia calyx

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S1. Comparative data of indole trimmer production in the clones

The culture of negative control (means E. coli carrying void vector) (1.5 L) and pDC115 (1.5 L) were subjected to solid phase extraction using HP-20 resin, respectively. The methanol extracts were further separated by ODS column chromatography (Cosmosil 75C18-PREP, Nacalai Tesque) eluted with a stepwise gradient system from water to methanol to afford four fractions. The 100% methanol fractions from pDC115 and NC cultures were subjected to DAD-HPLC analysis. HPLC analysis was performed on ODS column (Cosmosil 5C18 PAQ waters, 4.6 x 250 mm) with a mixture of H$_2$O and MeCN, both containing 0.05% trifluoroacetic acid: 0–30 min, 5-100% MeCN; 30–50 min, 100% MeCN; 50–55 min, 100-5% MeCN; 55–60 min, 5% MeCN. Flow rate: 0.8 mL/min. DAD profile were measured with the Shimadzu HPLC System: LC-20AD and SPD-20A Prominence Diode Array Detector.

S2. LC-MS data of compound 1

LC-MS (Agilent 1100 series-Bruker Esquire 4000, positive ESI.) analysis was performed on ODS column (TSK-Gel ODS-80Ts, 4.6 x 150 mm) with a mixture of H$_2$O and MeOH. Flow rate: 0.2mL/min. Detection wavelength: 405 nm.
S3. Chiral HPLC analysis of compound 1

Chiral HPLC analysis was performed on ODS-RH column (5 µm, 150 x 4.6 mm, Daicel, city, Japan) with 80% MeCN in H2O. Flow rate: 0.3mL/min, column pressure: 3 MPa. DAD profile were measured with the Shimadzu HPLC System: LC-20AD and SPD-20A Prominence Diode Array Detector.

Figure S3. Chiral HPLC analysis of compound 1 and UV spectra for peaks 1a and 1b
Figure S4. HR-ESI-MS (positive model) of compound 1
S5. NMR spectrum of compound 1
Figure S5-1. $^1$H-NMR spectrum of 1 (500 MHz, DMSO-$d_6$)
Figure S5-2. $^1$H,$^1$H-COSY spectrum of 1
Figure S5-3. HSQC spectrum of 1
Figure S5-4. HMBC spectrum of 1