Synthesis, Characterization and *in vitro* and *in vivo* Photodynamic Activity of gallium(III) tris(ethoxycarbonyl) corrole

Zhao Zhang*, Hua-hua Wang*, Hua-jun Yü, Yu-zhen Xiong#, Hai-tao Zhang*, Liang-nian Ji#, Hai-yang Liu*

**a** Department of Chemistry, Key Laboratory of Functional Molecular Engineering of Guangdong Province, South China University of Technology, Guangzhou, 510640, P. R. China.

**b** Guangdong Medical University Laboratory Animal Center, Guang Dong Medical College, Zhanjiang, 524023, P. R. China.

**c** Department of Biochemistry and Molecular Biology, Guang Dong Medical College, Zhanjiang, 524023, P. R. China.

**d** State Key Laboratory of Optoelectronics Materials and Technologies, Sun-Yat Sen University, Guangzhou 510275, China.

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**Figure S1.** The HR-MS spectra of 1.

**Figure S2.** The ¹H NMR spectra of 1.

**Figure S3.** The ¹³C NMR spectra of 1.

**Figure S4.** The HR-MS spectra of 1-Ga.

**Figure S5.** The ¹H NMR spectra of 1-Ga.

**Figure S6.** The ¹³C NMR spectra of 1-Ga.

**Figure S7.** The HR-MS spectra of 1-Mn.

**Figure S8.** The 3D morphological changes of A549 cells upon PDT treatment with 1-Ga. A) Control, without corrole under illumination; B) with the 1-Ga under illumination (×200).

**Figure S9.** Fluorescence microscopic images of Hoechst-33342-stained A549 cells after treatment with 1-Ga (×200); B) The apoptotic cells distribution of A549 after treatment 1-Ga and irradiation.

**Figure S10.** Effect of 1-Ga on the MMP decrease in A549 cells. A549 cells were treated with 1-Ga at 0.8 μM or 1.6 μM for 24 h, stained with the fluorescent probe JC-1.

**Figure S11.** Corrole 1-Ga induces apoptosis though ROS accumulation in A549 cells. Intracellular ROS detection in A549 after treatment with 1-Ga.
5,10,15-tris(ethoxycarbonyl)corrole (1): UV/Vis (CH$_2$Cl$_2$, 10 μM): $\lambda_{\text{max}}$, relative intensity, ($c \times 10^{-3}$ L mol$^{-1}$ cm$^{-1}$) = 418 (5.07), 532 (3.86), 571 (4.24) 637 (4.04); $^1$H NMR (400 MHz, $d$-CDCl$_3$) $\delta$=8.87 (s, 2H), 8.45 (s, 2H), 8.39 (s, 2H), 8.32 (s, 2H), 4.61 (q, $J$ = 6.7 Hz, 2H), 4.40 (s, 4H), 1.65 (m, 9H); $^{13}$C NMR (101 MHz, $d$-CDCl$_3$) $\delta$=170.20, 167.80, 130.90, 128.75-124.33, 117.72, 105.06, 62.15, 14.66; HR-MS, ([M+H]$^+$): 515.1929; calcd for C$_{28}$H$_{27}$N$_4$O$_6$+: 515.1925; Elemental Analysis: C, 65.39%; H, 5.13%; N, 10.93%.

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Intracellular ROS detection in A549 after treatment with 1-Ga.