Synthesis, Characterization and in vitro and in vivo Photodynamic

Activity of gallium(III) tris(ethoxycarbonyl) corrole

Zhao Zhang^a, Hua-hua Wang^a, Hua-jun Yu^b, Yu-zhen Xiong^c, Hai-tao Zhang^{*c},

Liang-nian Ji^d, Hai-yang Liu*^a

^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.

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 μ M or 1.6 μ M 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**.

^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.

5,10,15-tris(ethoxycarbonyl)corrole (**1**): UV/Vis (CH₂Cl₂, 10 μM): λmax, relative intensity, (ε×10⁻³ L mol⁻¹ cm⁻¹) = 418 (5.07), 532 (3.86), 571 (4.24) 637 (4.04); ¹H NMR (400 MHz, *d*-CDCl3) δ =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); ¹³C NMR (101 MHz, *d*-CDCl3) δ =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 C28H27N4O6⁺: 515.1925; Elemental Analysis: C, 65.39%; H, 5.13%; N, 10.93%.



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