

## Supplementary Information

### Acute effects of pulmonary exposure to zinc oxide nanoparticles on brain in vivo

**Hsiao-Chi Chuang<sup>1,2,3</sup>, Yu-Ting Yang<sup>4</sup>, Hsin-Chang Chen<sup>5</sup>, Yaw-Huei Hwang<sup>4,6</sup>, Kuen-Yuh Wu<sup>4</sup>, Ta-Fu Chen<sup>7</sup>, Chia-Ling Chen<sup>1</sup>, Ming-Kai Jhan<sup>8,9</sup>, Tsun-Jen Cheng<sup>4,5\*</sup>**

*<sup>1</sup>School of Respiratory Therapy, College of Medicine, Taipei Medical University, Taipei, Taiwan*

*<sup>2</sup>Cell Physiology and Molecular Image Research Center, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan*

*<sup>3</sup>Division of Pulmonary Medicine, Department of Internal Medicine, Shuang Ho Hospital, Taipei Medical University, New Taipei City, Taiwan*

*<sup>4</sup>Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei, Taiwan*

*<sup>5</sup>Institute of Food Safety and Health, College of Public Health, National Taiwan University, Taipei, Taiwan*

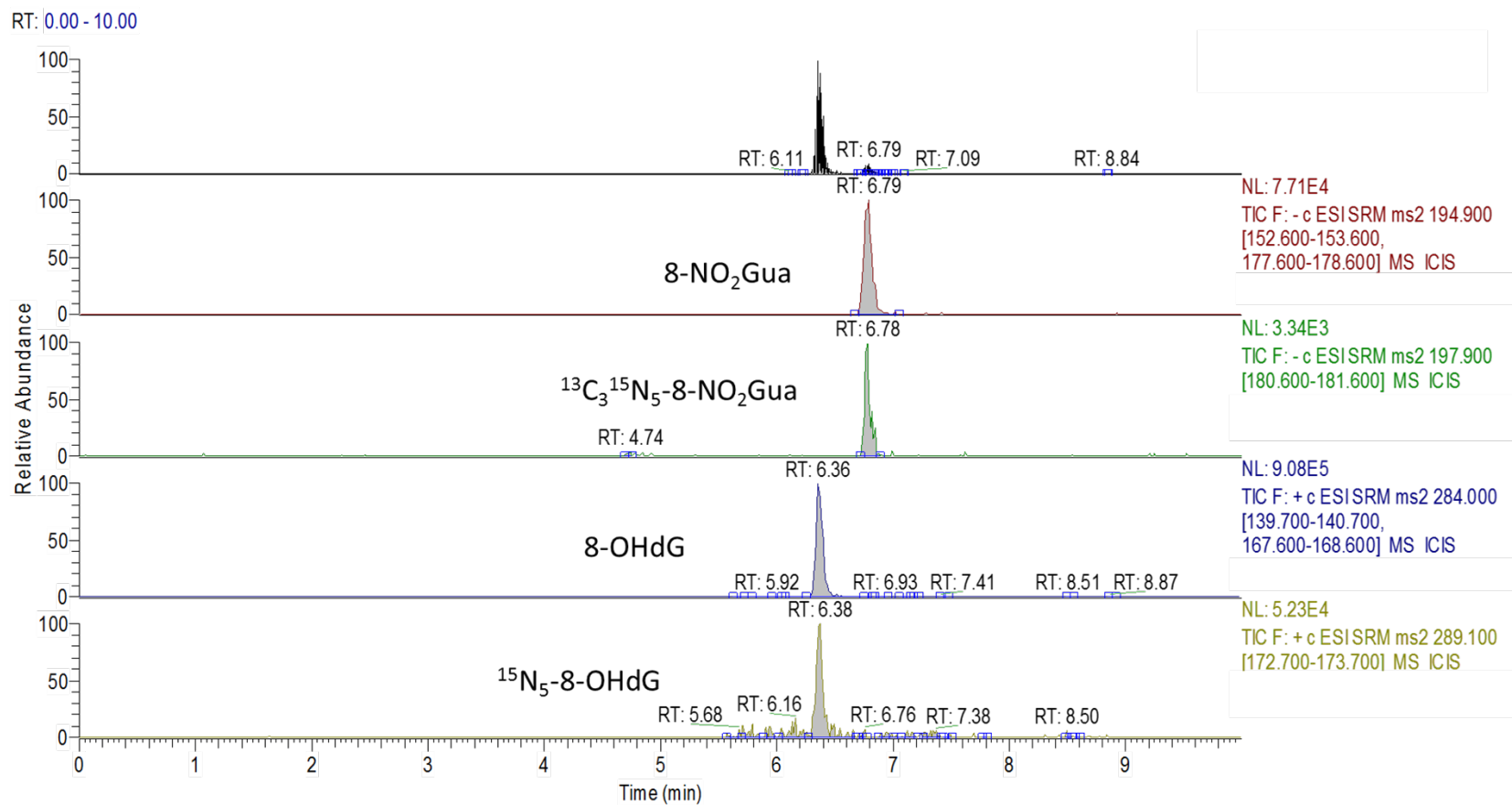
*<sup>6</sup>Department of Public Health, College of Public Health, National Taiwan University, Taipei, Taiwan*

*<sup>7</sup>Department of Neurology, National Taiwan University Hospital, College of Medicine, National Taiwan University, Taipei, Taiwan*

*<sup>8</sup>Graduate Institute of Medical Sciences, College of Medicine, Taipei Medical University, Taipei, Taiwan*

*<sup>9</sup>Department of Microbiology and Immunology, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan*

## Supplementary Information



**Figure S1. Spectrums of 8-NO<sub>2</sub>Gua, <sup>13</sup>C<sub>3</sub><sup>15</sup>N<sub>5</sub>-8-NG, 8-OHdG and <sup>15</sup>N<sub>5</sub>-8-OHdG analysed by LC-MS/MS.**

## Supplementary Information

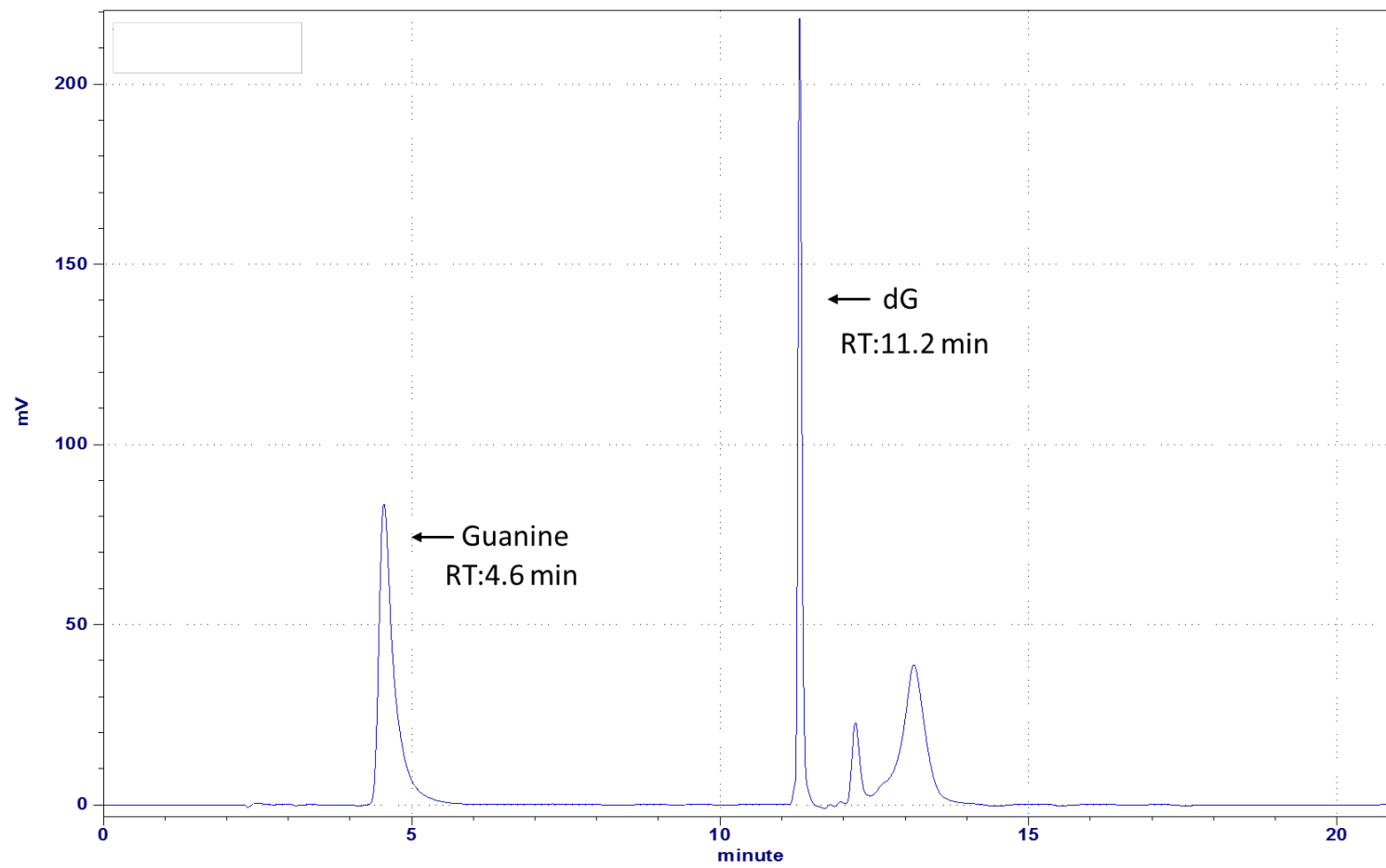
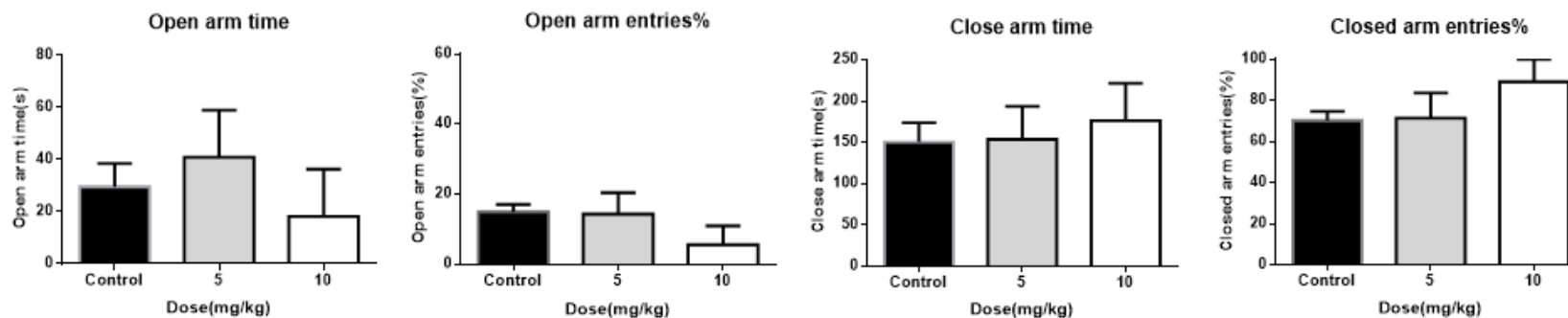


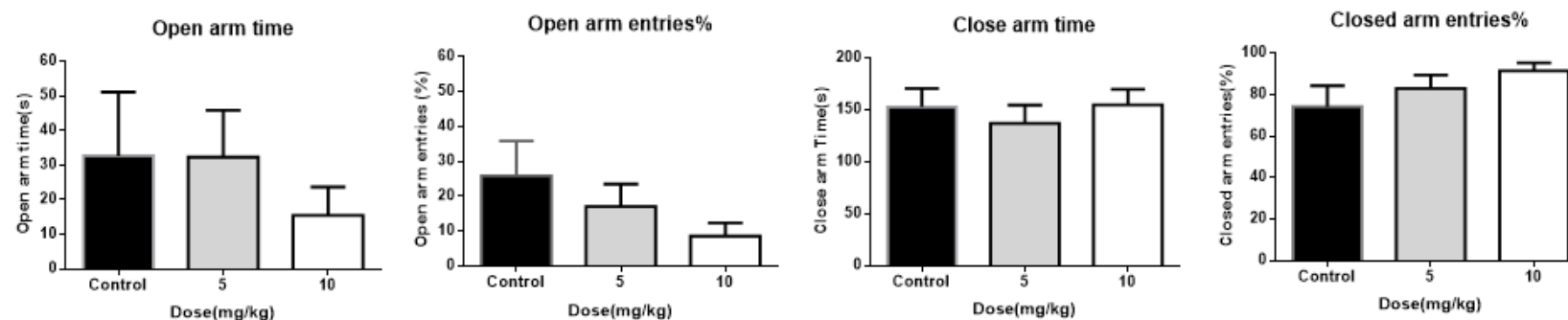
Figure S2. Spectrums of dG and guanine analysed by HPLC-UV.

## Supplementary Information

### Day 1



### Day 5



**Figure S3.** The elevated-plus maze for examination of anxiety on days 1 and 5 after exposure to control, and 5 and 10 mg/kg zinc oxide nanoparticles (ZnONPs). There were no significant differences in the open-arm time, open-arm entries (%), closed-arm time, or closed-arm entries (%) after ZnONP exposure on days 1 and 5.