

## Supporting Information

### Loop2 Size Modification Reveals Significant Impacts on the Potency of $\alpha$ -Conotoxin TxID

Jianying Dong<sup>a</sup>, Panpan Zhang<sup>a</sup>, Junjie Xie<sup>a</sup>, Ting Xie<sup>a</sup>, Xiaopeng Zhu<sup>a</sup>, Dongting Zhangsun<sup>b</sup>, Jinpeng Yu<sup>a\*</sup>, Sulan Luo<sup>a, b\*</sup>

<sup>a</sup> School of Medicine, Guangxi University, Nanning, 530004, China

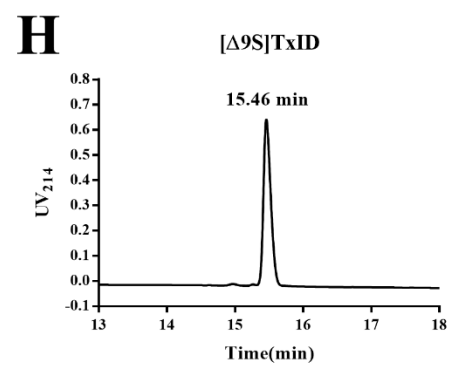
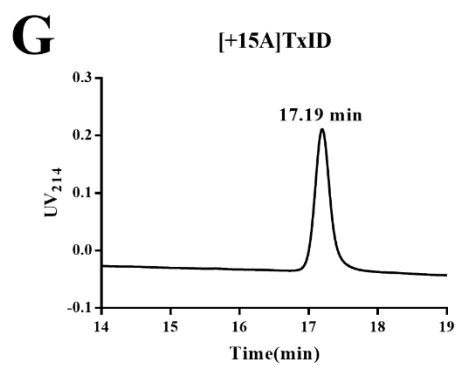
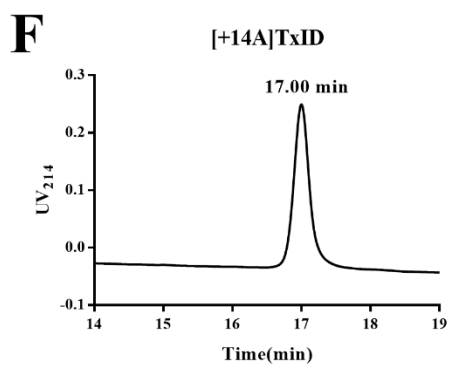
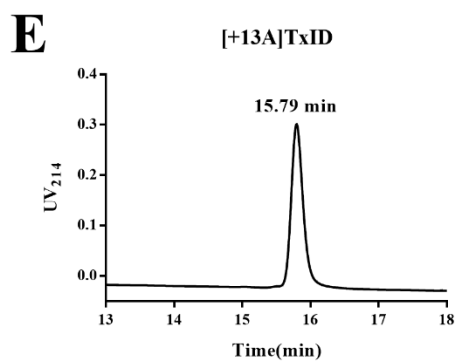
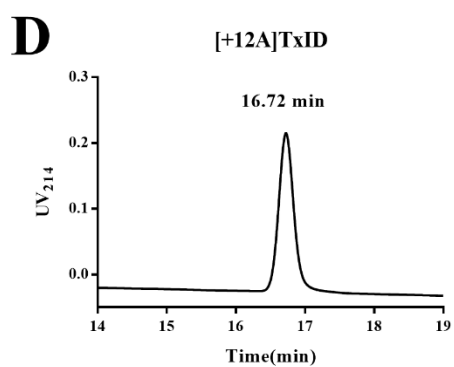
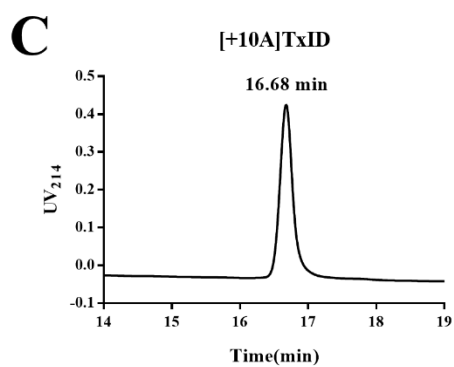
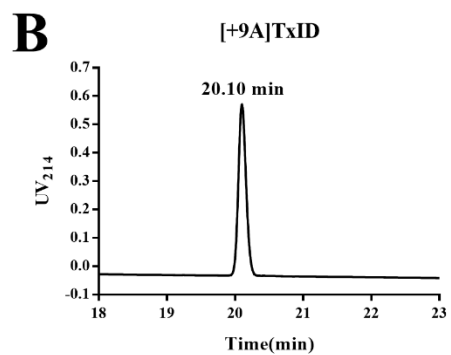
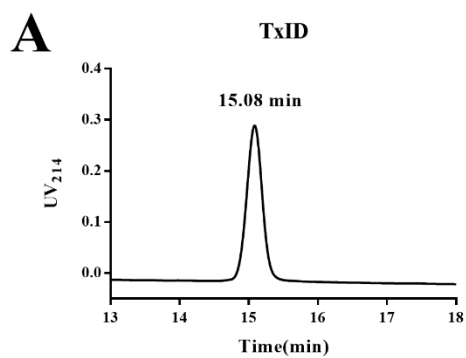
<sup>b</sup> Key Laboratory of Tropical Biological Resources, Ministry of Education; Key Laboratory for Marine Drugs of Haikou, Hainan University, Haikou 570228, China

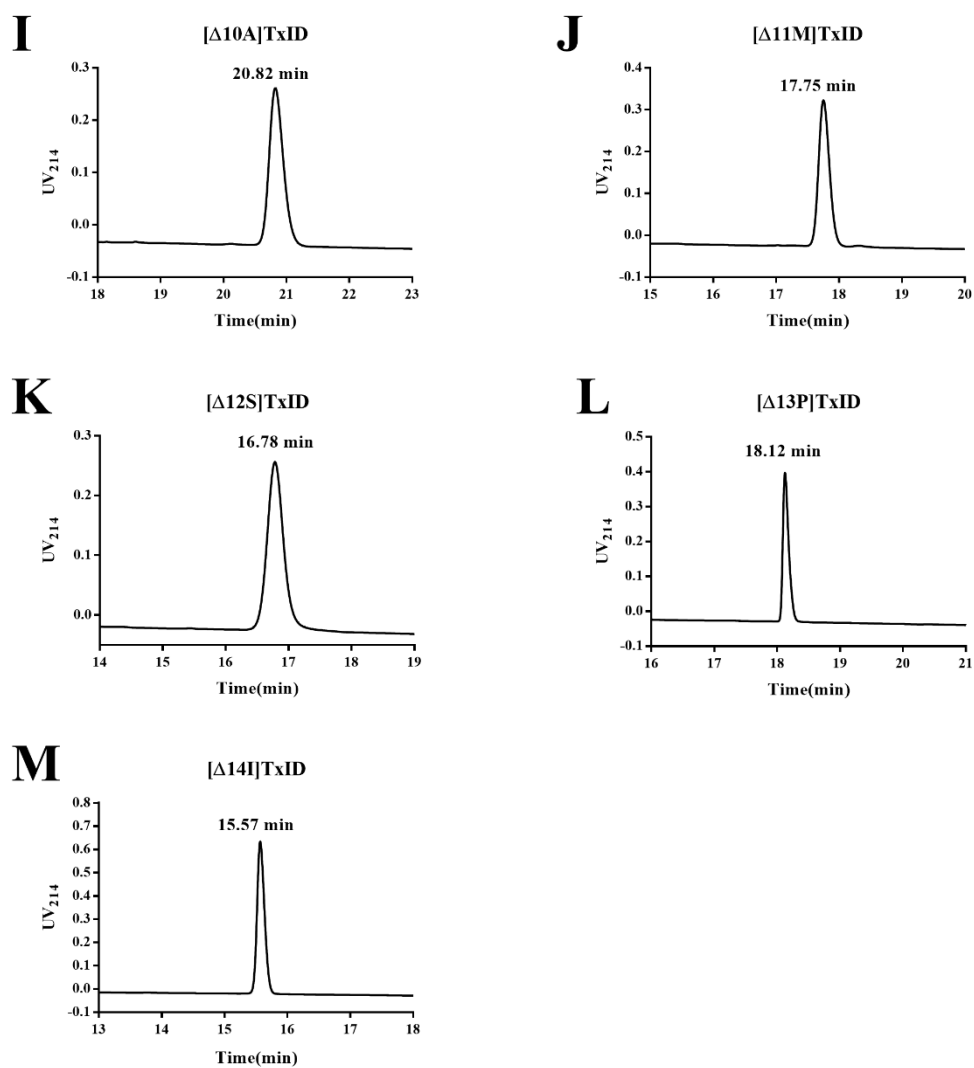
\* Corresponding Author E-mail: yujinpeng@gxu.edu.cn (J.Y.); Sulan2021@gxu.edu.cn (S.L.);

#### Table of Contents

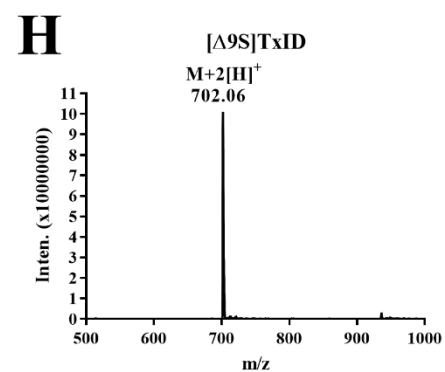
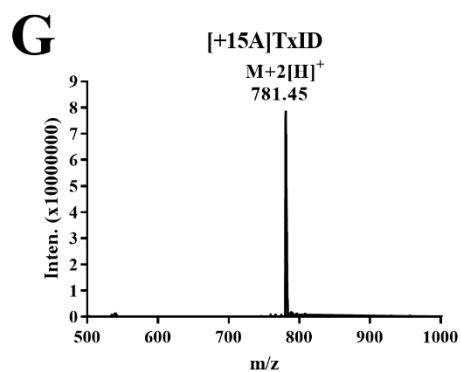
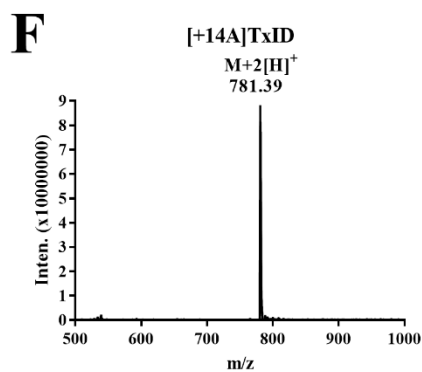
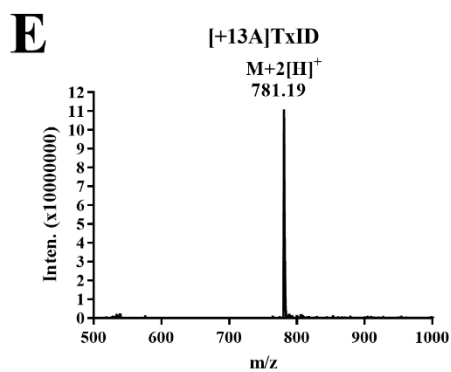
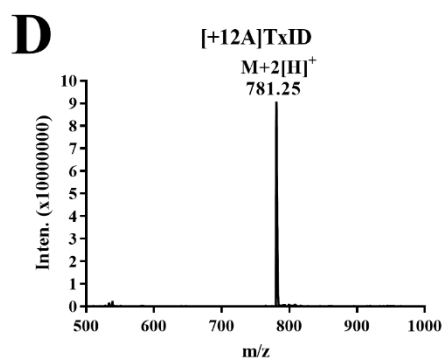
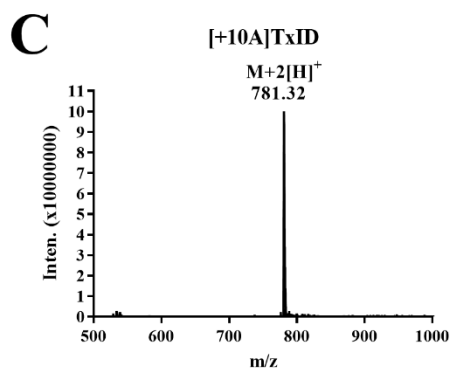
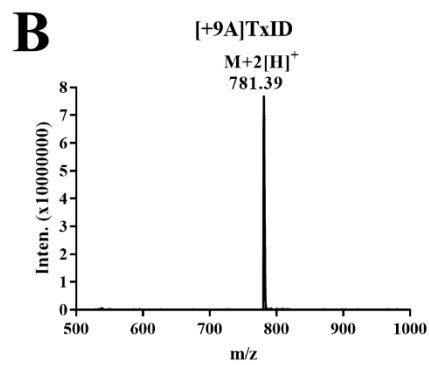
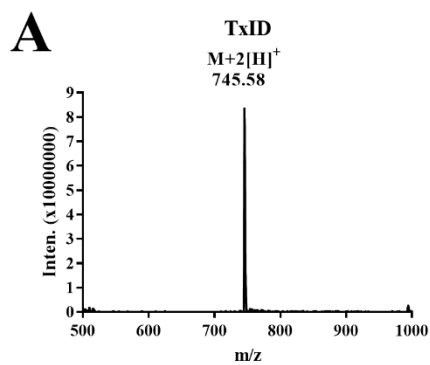
**Figure S1.** RP-HPLC analysis of TxID and its mutants. (Page S2-S3)

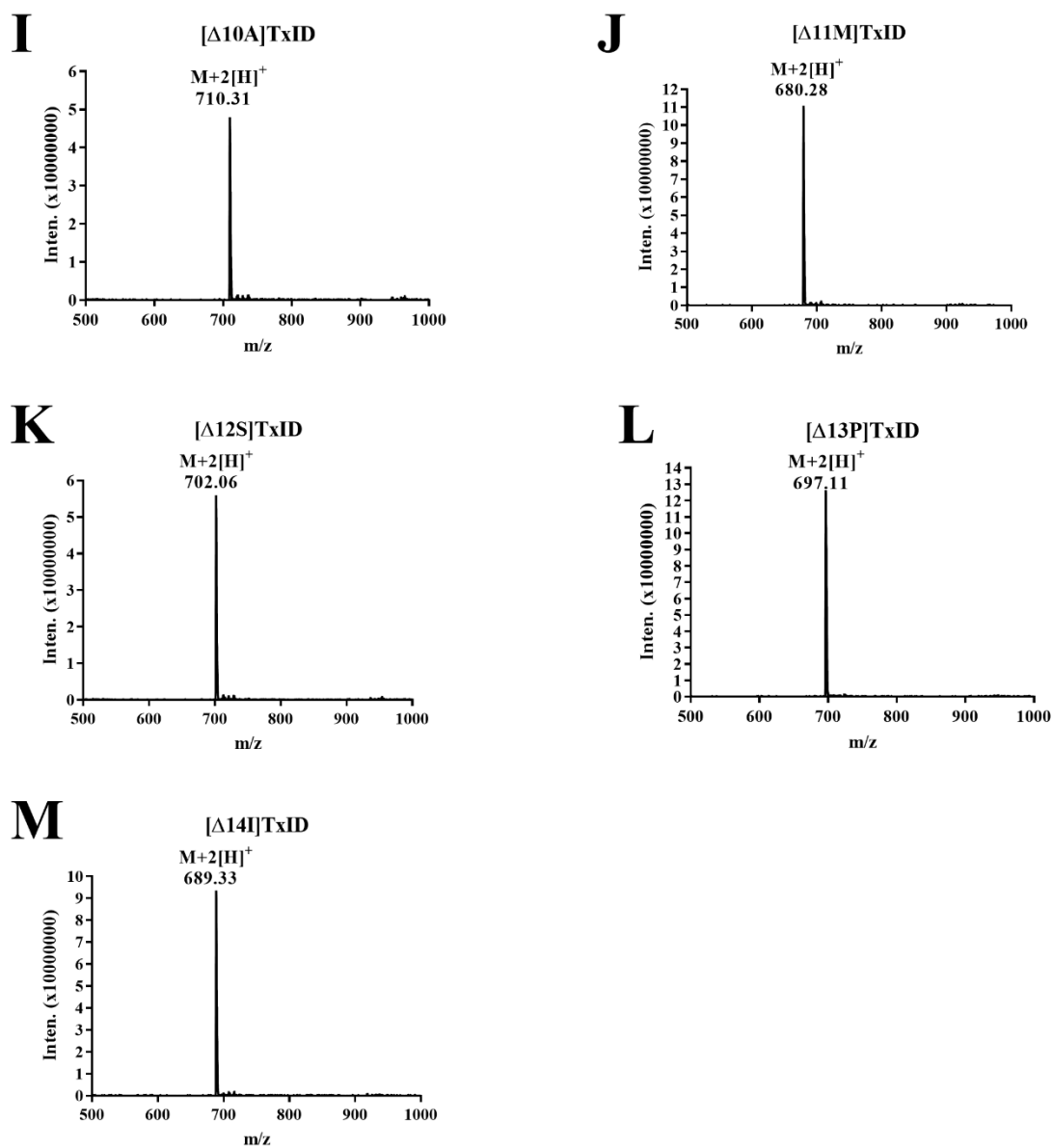
**Figure S2.** ESI-MS analysis of TxID and its mutants. (Pages S4-S5)





**Figure S1.** RP-HPLC analysis of TxID and its mutants (A-M).





**Figure S2.** ESI-MS analysis of TxID and its mutants (A-M).