**TSAnalyst Desktop: The Integrated Solution for Thermal Shift Assays**

*TSAnalyst Desktop* is an integrated open-source framework for data analysis related to thermal shift assays. The graphical user interface is organized with QT platform, and the functions were written in Python and R programming languages. At present, it provides data conversion and preprocessing (including normalization, missing value imputation, etc.), conventional thermal proteome profiling (TPP) analysis, nonparametric TPP analysis and isothermal shift analysis. The thermal proximity coaggregation analysis (TPCA) is under development. Thermal shift-based protein network analysis will be integrated in the future.

The software is developed by Tan Lab (Southern University of Science and Technology, China PR). The original author and current maintainer are Ji Hongchao (ji.hongchao@foxmail.com) Anyone can use, modify and convey the software under GPL (>=3.0) license. For reporting bugs or requesting new features, you can put forward issues at: <https://github.com/hcji/TPCA_QT/issues>.

1. **Overview**
   1. **Installation**

*TSAnalyst Desktop* is a standalone software, but some of functions are depended by R language. The installer version should be preferred but might require administrator permissions. If you did not installed R on your computer, it will help you install it. If you choose to use install-version version, please guarantee you have R with version later than 4.0.5. The download links of the latest are as follow:

Windows installer:

Install-free version:

Source codes:

Since we do not pay Microsoft for certification, you might have to confirm that you want to trust "software from an unknown source" on Windows. The software is written by cross-platform tools, so it should also work in MacOS and Linux, but we have not tested yet.

* 1. **Changelog**

*Initial version 0.99.0:*

* Conventional TPP analysis, nonparametric TPP analysis and iTSA analysis
* Data preprocessing, normalization, missing value imputation.
* Thermal shift curve fitting and visualization.
  1. **Citation**

The paper related to the software is in preparation.

1. **Data preprocessing**