C-Profile

To calculate the physicochemical properties of a protein from its amino acid sequence.

Based on the amino acid sequence of a protein (FASTA format), molecular weight, pH dependence of charge/charge density, pI, ε, GRAVY, and other physicochemical properties of it can be obtained.

It is useful for purification of protein samples and for investigation of crystallization conditions.

It is provided with a macro file that runs in Microsoft Excel.

Features

- C-Profile is provided as a Microsoft Excel file with macros, installed on Windows 7/10/11
  Works with Microsoft Excel 2010 or later versions (32-bit and 64-bit).

- The following calculations are performed and displayed from the amino acid sequence in FASTA format.
  The top of the graph shows the number of charges, and the bottom of the graph shows the charge density.
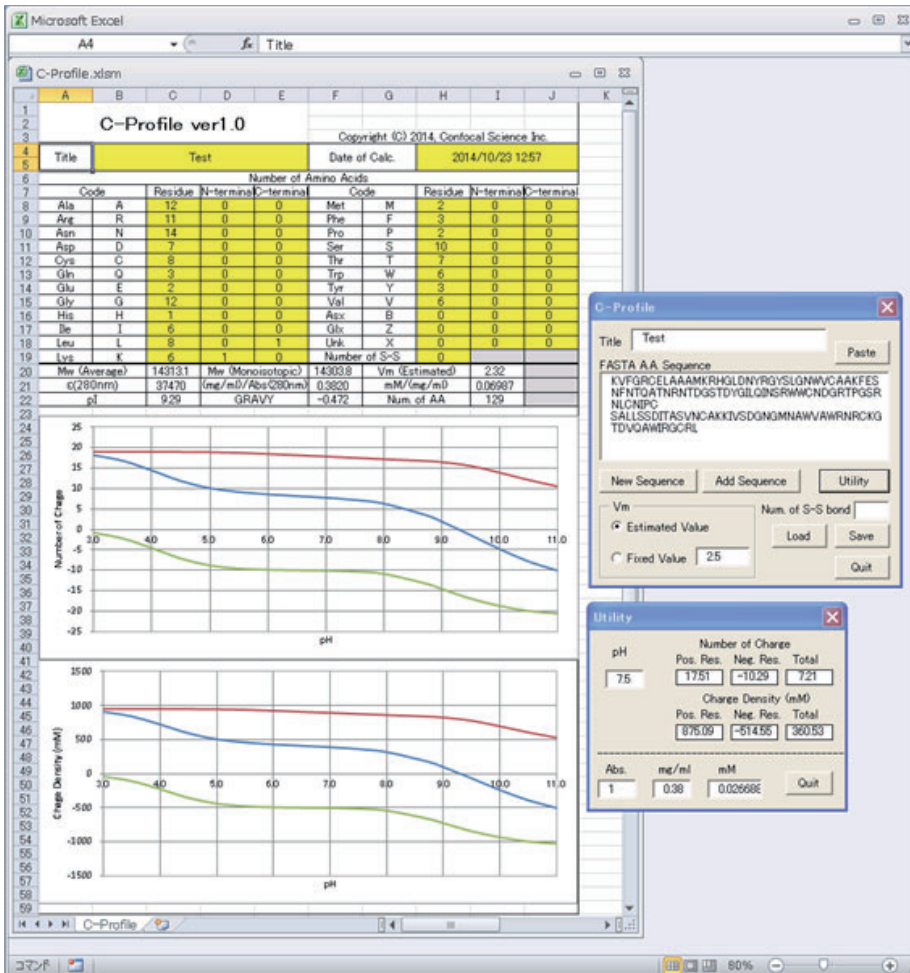
- Each and total amino acid number
- Molecular weight（average and monoisotropi
- The most probable Vm value
- Molar extinction coefficient ε （280nm）
- Isoelectric point (pI)
- GRAVY
- Dependence of electric charge number on pH
- Dependence on electric charge density on pH

positive charge	(red line)
negatice charge	(green line)
Total charge	(blue line)
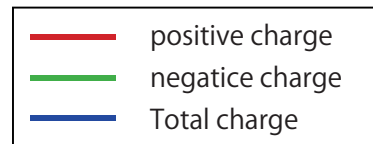
Functions

- Input amino acid sequence in FASTA format into the form field.
- Another amino acid sequence such as peptide ligand can be input successively.
- The Vm value for the calculation of charge density can be the estimated by C-profile or fixed value.
- The number of Cystine (S-S bond) can be set.
- The electric charge and charge density can be calculated at given pH value.
- Conversion between absorbance at 280nm, weight concentration (mg/ml), and molarity (mM) are calculated muturaly
- A title can be given for the calculation results.
- The result can be saved in a named Excel file (.xlsx) without the amino acid sequence.
- The saved Excel file can be reloaded in C-Profile to conduct all the command above.

Effective usage

- The change of physicochemical parameters easily, when some of the amino acids are replaced .
- According to the experimentally-obtained absorbance, the weight concentration (mg/ml) can be calculate easily.
- The electric charge and electric density of the protein molecule at a selected pH can be estimated.
- The estimation result will be useful for e. g. the optimization of the solutions for ion-exchange chromatography and protein crystallization.

Price

Cat. ID	Product Name	Qty.	Price (w/o VAT)	Content
CRT700	C-Profile	1 set	10,000 (JPY)	CD, Ist. Manual

Restrictions

- The validity of C-Profile expires one year after the activation.
- C-Profile can only be used and be copied in PC of the purchaser. The copy takes over the expiration data from the original one.
- C-Profile is available for the estimation of the physicochemical property of the protein molecule only for academic use on your own responsibility.
- The results of C-Profile assume no responsibility.
- Neither alteration of the program nor decryption of the source code is allowed.
- Transfer of C-Profile to a third party is prohibited.
- • The program of C-Profile may be improved and/or the price of C-Profile may be changed without any notice.