Help:Formulas

There is a possibility to display mathematical or chemical formulas in the text of the articles. Characters of the Greek alphabet can be inserted as well. How to insert these useful things is described below.

Mathematical formulas

Simple formulas can be inserted as a plain text, of course (a + b = c). But some formulas are so complicated that have to be inserted as a special piece of code.

Special tag <math> is used for the complicated formulas. It allows to insert special mathematical symbols, quotations, formulas and large expressions. It uses syntax similar to *LaTeX* code.

For example, code $\sqrt{1-e^2}$ does this: $\sqrt{1-e^2}$. As you can see, the tag $is followed by the code of the expression and the ended by end-tag$.

Even if you can use it to create very complicated expression, this probably will not be used at WikiLectures. So this help article shows only basics of the code.

Code (inside the <math> tag!)	Preview
+ - \times \div	$+ - \times \div$
\sqrt{2} \sqrt[n]{x+1}	$\sqrt{2}\ \sqrt[n]{x+1}$
< = >	<=>
\leftarrow \rightarrow \uparrow \downarrow	$\leftarrow \rightarrow \uparrow \downarrow$
$\int\limits_a^x f(\frac{\alpha}{2}\,)\,dx$	$\int\limits_a^x f(\frac{\alpha}{2}\,)\,dx$
$\sqrt{\sqrt{\sqrt{x}}}$	$\sqrt{\sqrt{\sqrt{x}}}$
\Leftarrow \Rightarrow \Uparrow \Downarrow	$\Leftarrow \Rightarrow \Uparrow \Downarrow$
a^2 a_2 a^2_3 a^{c+3}	$a^2\ a_2\ a^2_3\ a^{c+3}$
\alpha \beta \gamma \delta \epsilon \zeta \eta \theta \iota \kappa \lambda \mu \nu \xi \pi \rho \sigma \tau \upsilon \phi \chi \psi \omega	$\alpha\beta\gamma\delta\epsilon\zeta\eta\theta\iota\kappa\lambda\mu\nu\xi\pi\rho\sigma\tau\upsilon\phi\chi\psi\omega$
\Alpha \Beta \Gamma \Delta \Epsilon \Zeta \Eta \Theta \Iota \Kappa \Lambda \Mu \Nu \Xi \Pi \Rho \Sigma \Tau \Upsilon \Phi \Chi \Psi \Omega	$\Alpha\Beta\Gamma\Delta\Epsilon\Zeta\Eta\Theta\Iota\Kappa\Lambda\Mu\Nu\Xi\Pi\Rho\Sigma\Tau\Upsilon\Phi\Chi\Psi\Omega$

Chemical formulas

Chemical formulas can be written as a plain text (NO), text with special tags using edit buttons above the edit field (H₂0 → H_2O).

Arrows

- To insert the arrow for the reversible reaction ⇌ {{reversible reaction}}.
- Simple arrows ← and → insert using ← a →.

More complex formulas

If you need more complex notations (e.g. arrows above or below text; special symbols or link labels; a combination of several indices in different positions around one symbol), use a more versatile tool used for inserting mathematical formulas:

- $\xrightarrow{\mathrm{katalysator}}$

  $\xrightarrow{\mathrm{katalysator}}$

- $\xrightarrow{\mathrm{UV}}$

  $\xrightarrow{\mathrm{UV}}$

- `<math> \xrightarrow{ \ \mathrm{UV} \ } </math>`

  $$\xrightarrow{\ \mathrm{UV}\ }$$

- `<math>\mathrm{O\cdot} + \mathrm{O}_2 \longrightarrow \cdot\mathrm{O}_3</math>`

  $$\mathrm{O\cdot} + \mathrm{O_2} \longrightarrow \cdot\mathrm{O_3}$$

- `<math>\mathrm{NO}_2\ \xrightarrow{\mathrm{\ UV\ }}\ \mathrm{NO} + \mathrm{O} \cdot </math>`

  $$\mathrm{NO_2}\ \xrightarrow{\mathrm{\ UV\ }}\ \mathrm{NO} + \mathrm{O}\cdot$$

Structural formulas

Structural formulas need to be created as an image and then inserted into the WikiScript. Software for creating chemical formulas is also available for free, e.g. ChemSketch (https://www.acdlabs.com/resources/freeware/chemsketch/).

It is advisable to export the created formulas as .png files with sufficient resolution (at least 150 DPI). Formulas saved as an image cannot be further edited in the chemical formula editor. If you wish to make the editable file available to other users, please send it to thewikilectures@gmail.com, along with the name under which the image is stored in WikiLectures.

Greek alphabet

You can insert characters of the Greek alphabet directly in the text using these pieces of code:

Greek character	What you need to write
Α α	`&Alpha; &alpha;`
Β β	`&Beta; &beta;`
Γ γ	`&Gamma; &gamma;`
Δ δ	`&Delta; &delta;`
Ε ε	`&Epsilon; &epsilon;`
Ζ ζ	`&Zeta; &zeta;`
Η η	`&Eta; &eta;`
Θ θ	`&Theta; &theta;`
Ι ι	`&Iota; &iota;`
Κ κ	`&Kappa; &kappa;`
Λ λ	`&Lambda; &lambda;`
Μ μ	`&Mu; &mu;`
Ν ν	`&Nu; &nu;`
Ξ ξ	`&Xi; &xi;`
Ο ο	`&Omicron; &omicron;`
Π π	`&Pi; &pi;`
Ρ ρ	`&Rho; &rho;`
Σ σ ς	`&Sigma; &sigma; &sigmaf;`
Τ τ	`&Tau; &tau;`
Υ υ	`&Upsilon; &upsilon;`
Φ φ	`&Phi; &phi;`
Χ χ	`&Chi; &chi;`
Ψ ψ	`&Psi; &psi;`
Ω ω	`&Omega; &omega;`