Physiolibrary - Modelica library for Physiology

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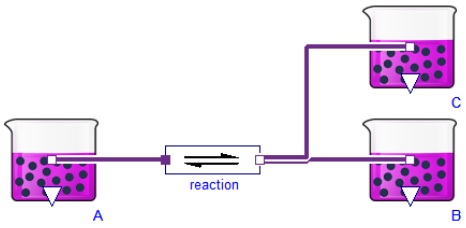
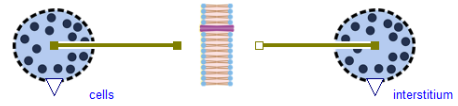
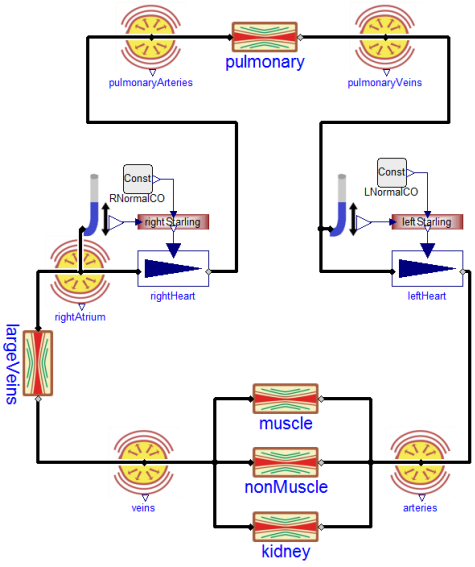
Physiolibrary is a free open-source Modelica library designed for modeling human physiology. It is accessible on the Modelica Libraries web page at https://www.modelica.org/libraries. This library contains basic physical laws governing human physiology, usable for cardiovascular circulation, metabolic processes, nutrient distribution, thermoregulation, gases transport, electrolyte regulation, water distribution, hormonal regulation and pharmacological regulation.



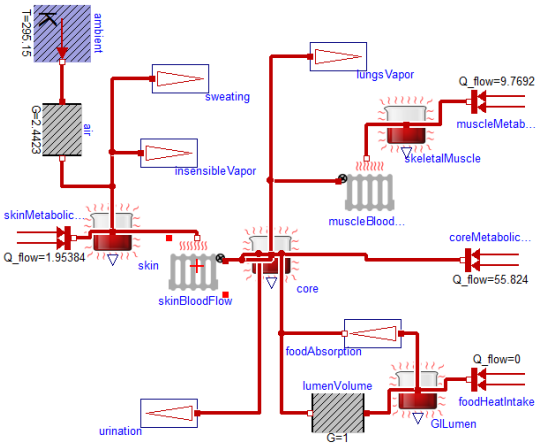
Chemical: substance, reaction, diffusion, clearance, degradation, stream, dilution,..



Osmotic: semi-permeable membrane, accumulation place for permeable liquid,..



Hydraulic: resistor, pump, elastic vessel, hydrostatic column, inertia, absorption, ..



Thermal: conductor, ideal radiator, heat accumulation place, stream, vaporization,..

References

[1] J. Kofránek, M. Mateják, P. Privitzer: HumMod - large scale physiological model in Modelica. 8th. International Modelica conference, Dresden, Germany, 2011.