

Physiomodel 1.0 structure

(using of Physiobrary 3.2.1)

www.physiomodel.org

www.physiolibrary.org

Reimplementation and extension of HumMod Model in Modelica

hummod.org

Structure – vlastnosti

Obecné | Sdílení | Zabezpečení | Přizpůsobit

Structure

Typ: Složka souborů

Umístění: G:\Hummod 1.6\HumMod-hummod-standalone-2

Velikost: 1.30 MB (1 370 265 bajtů)

Velikost na disku: 3.73 MB (3 911 680 bajtů)

Obsahuje: 991 souborů, 149 složek

Vytvořeno: 24. listopadu 2011, 7:13:20

Atributy: Jen pro čtení (platí pouze pro soubory ve složce)

Storno Použít

991 XML files



Modelica

HumMod | The best, most complete, mathematical model of human physiology ever created.

Hi. We're HumMod.

The best, most complete, mathematical model of human physiology ever created.

Windows-only for the time being.

[Get Started](#)

We power [JustPhysiology.com](#)

Our model is being used by Just Physiology to leverage the power and comprehensive nature of our tool with a stunning graphical interface for teaching the next generation of physiology experts.

[Go To justphysiology.com](#)

Features and Origin

- ✓ Over 5,000 variables
- ✓ Completely customizable
- ✓ Open-sourced descriptions
- ✓ Published in peer-reviewed literature

[Read the origin story](#)

Other Projects

Editor

Want to create your own models? Fuss with HumMod's physiology?

[Get the Editor](#)

Help & Feedback

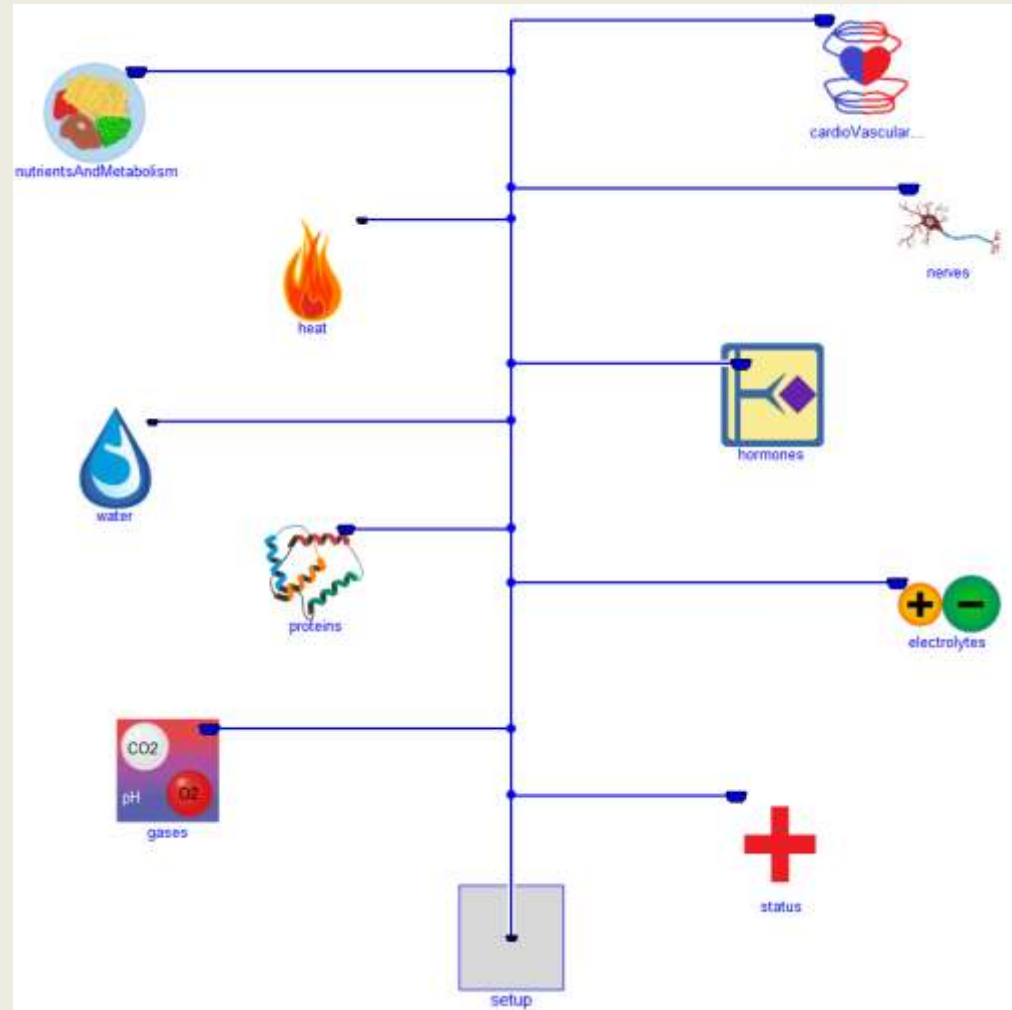
Knowledge Base

This is our starting point for the collective knowledge of HumMod. New tutorials, information, etc. appears in the Knowledge Base first.

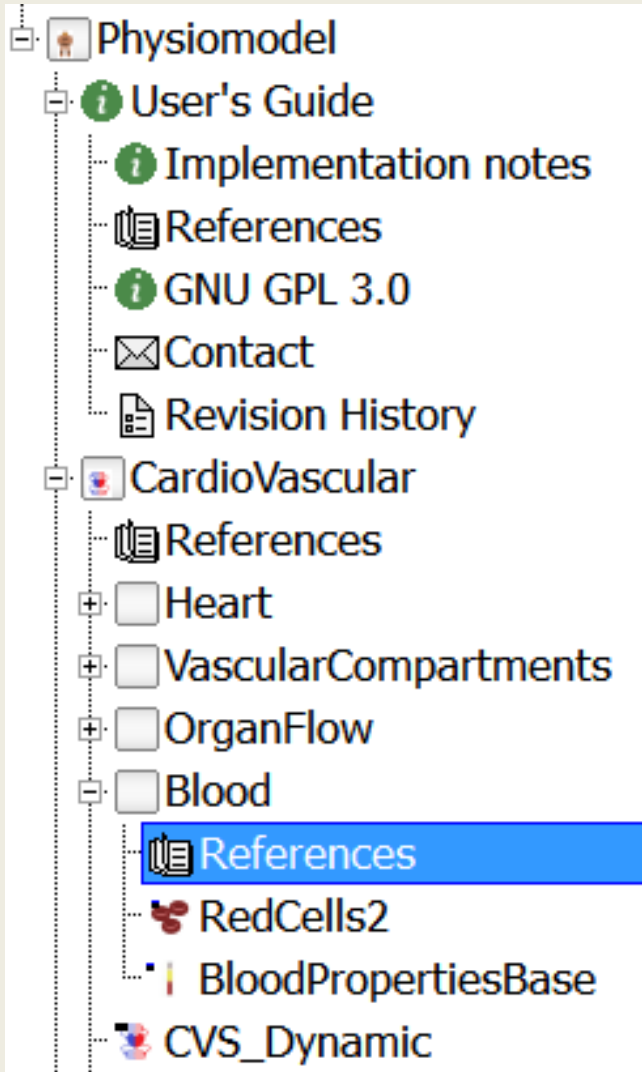
[Experience the Knowledge Base](#)

Physiomodel Structure

- Physiomodel
 - User's Guide
 - CardioVascular
 - Gases
 - Metabolism
 - Hormones
 - Nerves
 - Setup
 - Status
 - Water
 - Proteins
 - Electrolytes
 - Heat
 - Physiomodel_Main
 - Substances

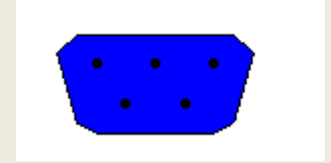


References



```
class References "References"  
  extends Modelica.Icons.References;  
  
  annotation (Documentation(info="<html>  
    <table>  
      <tr>  
        <td>[Begg1966]</td>  
        <td>T. Begg and J. Hearn, \"Comp  
          onents in blood viscosity. The relative contrib  
          ution of haematocrit, plasma fibrinogen and ot  
          her proteins,\" Clinical science, vol. 31, pp. 87  
          -93, 1966. </td>  
      </tr>  
    </table>  
    </html>"));  
end References;
```

Expandable connector



expandable connector BusConnector

"Empty control bus that is adapted to the signals connected to it"

annotation (Documentation(info="<html>

<p>

This connector defines the \"expandable connector\" that is used as bus in the Physiomodel.

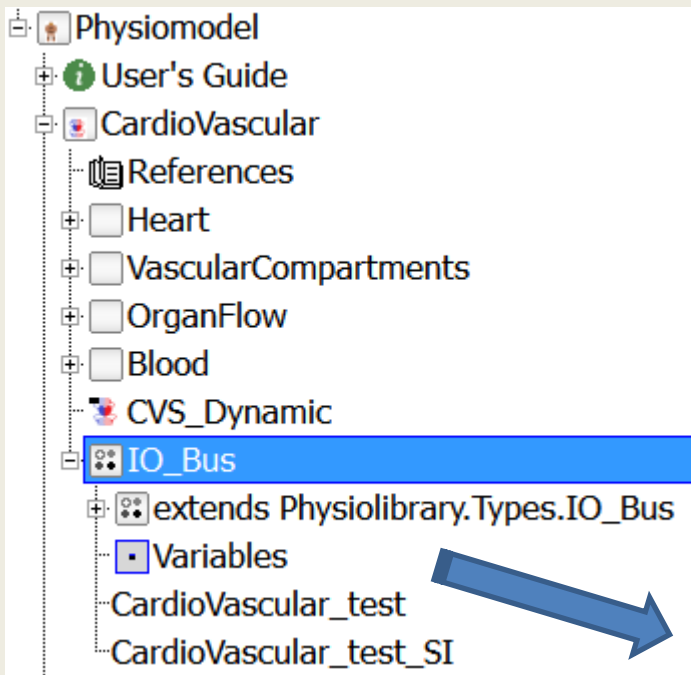
Note, this connector is \"empty\". When using it, the actual content is constructed by the signals connected to this bus.

</p>

</html>"));

end BusConnector;

Input-Output Bus



```
package IO_Bus  
extends Physioblibrary.Types.IO_Bus;
```

```
redeclare model extends Variables
```

```
  T.Volume ArtysVol(varName="ArtysVol.Vol")  
    "Volume of oxygenated blood in body."  
  T.Fraction BloodVol_Hct(varName="BloodVol.Hct")  
    "Heamatocrit = red cells / blood.";
```

...

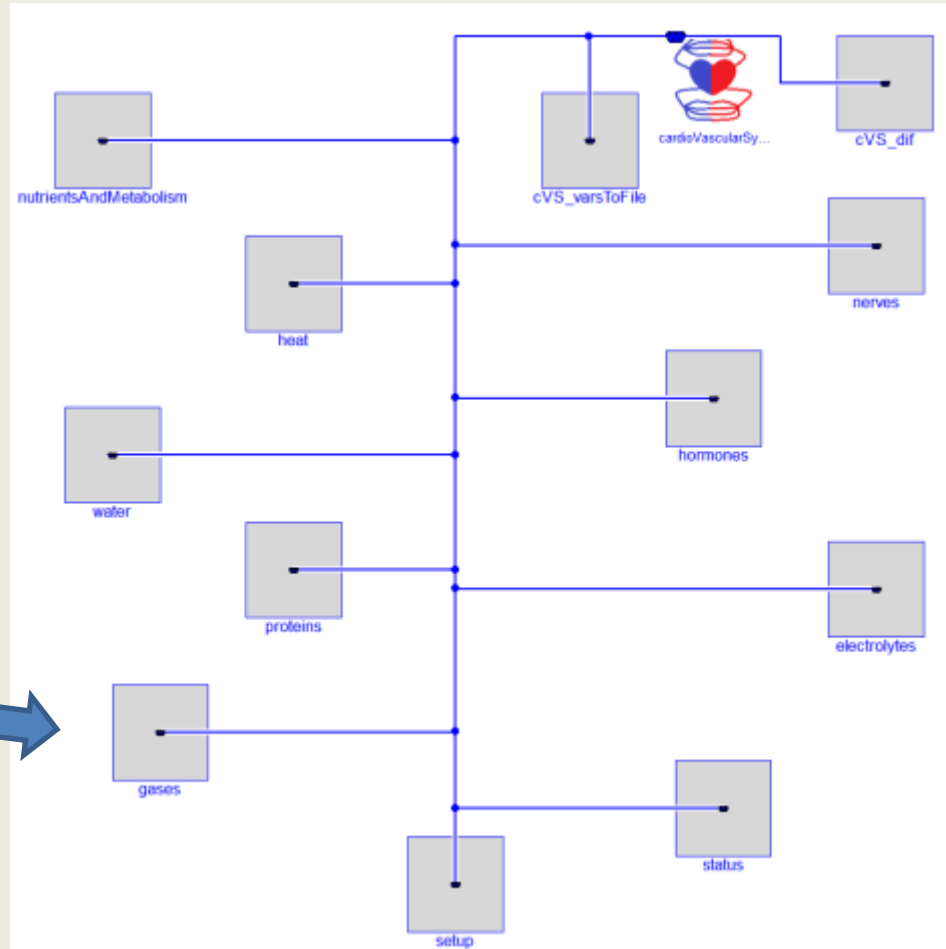
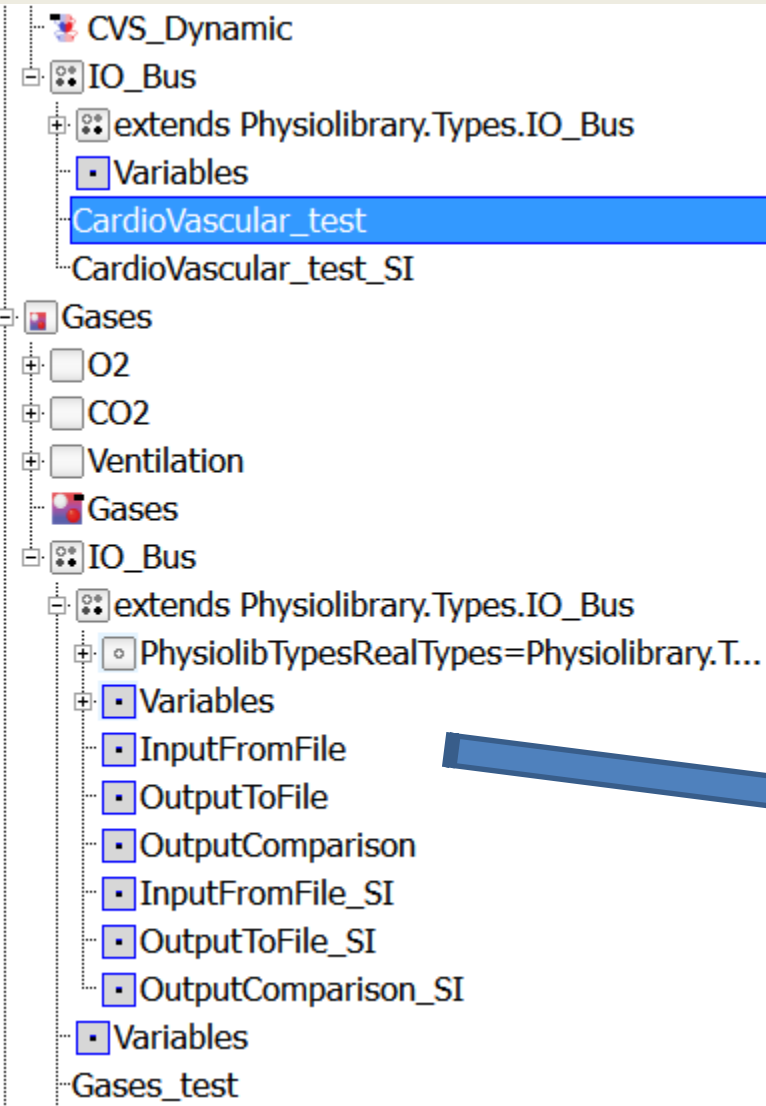
```
equation
```

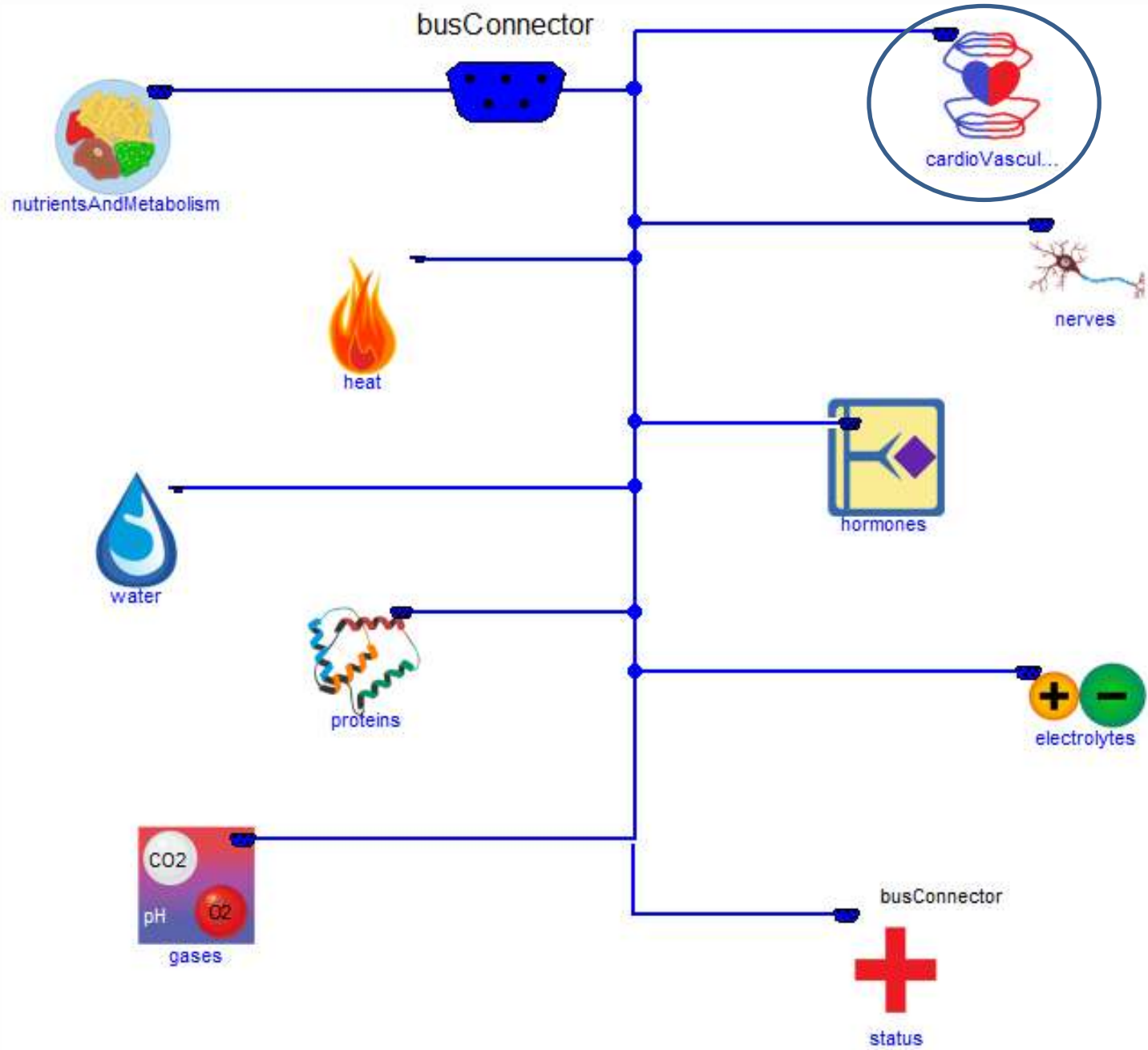
```
  connect(ArtysVol.y, busConnector.ArtysVol);  
  connect(BloodVol_Hct.y, busConnector.BloodVol_Hct);
```

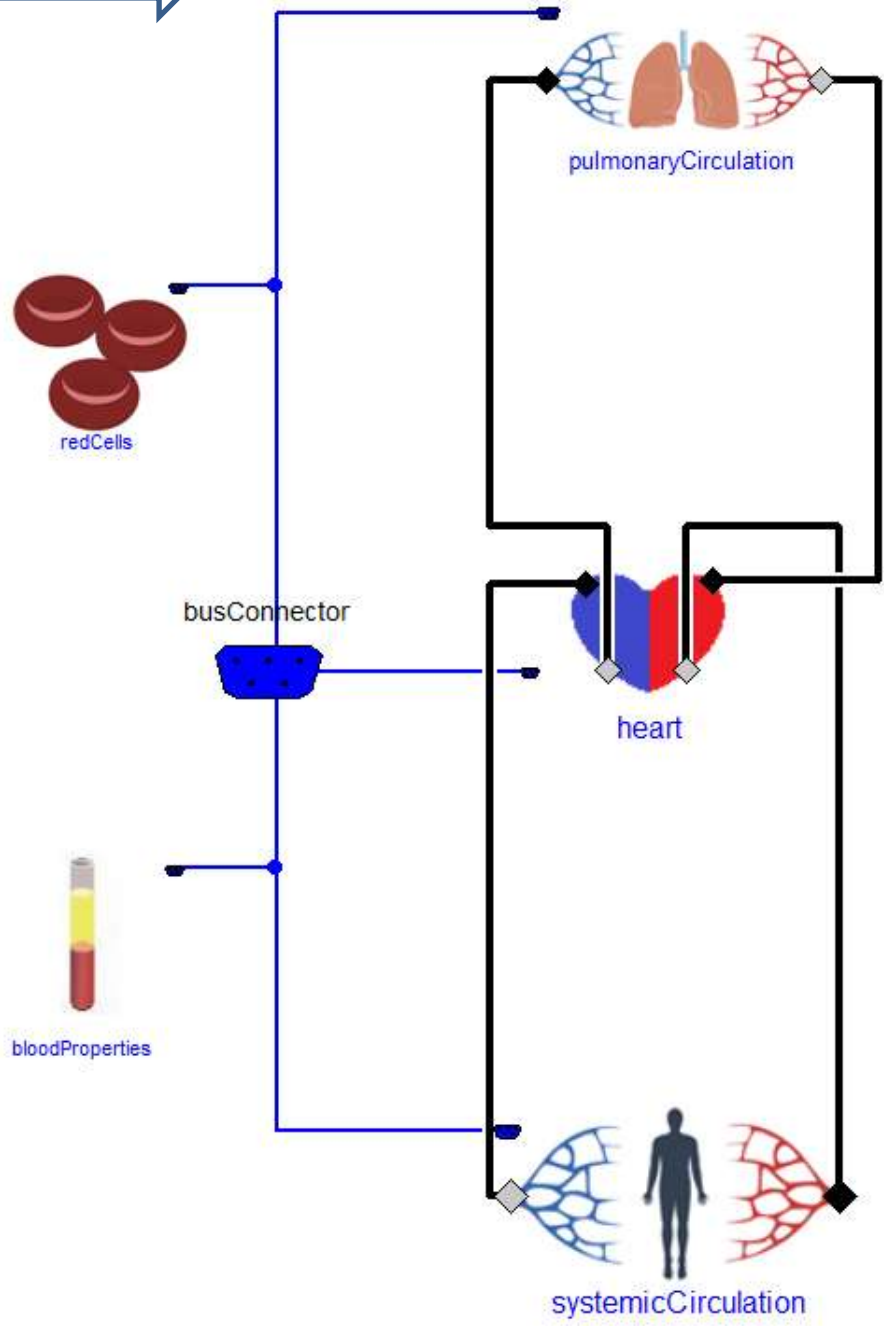
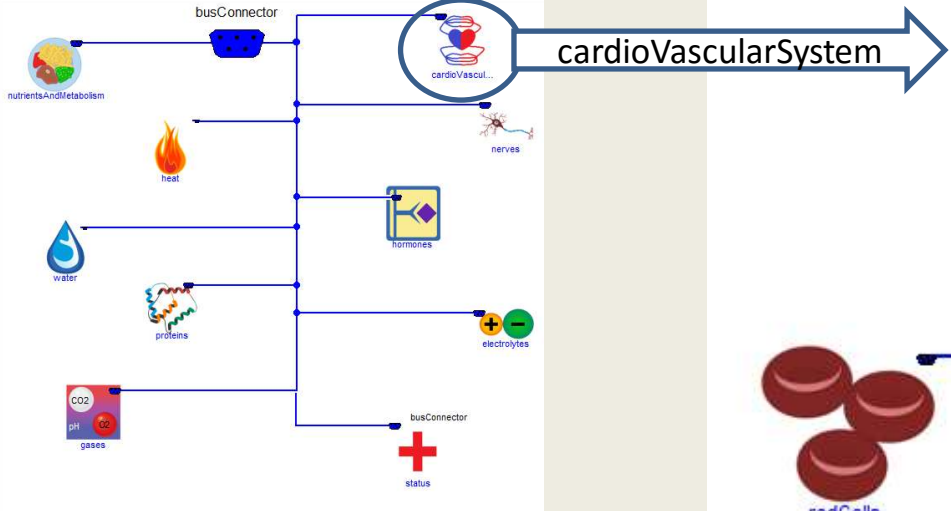
...

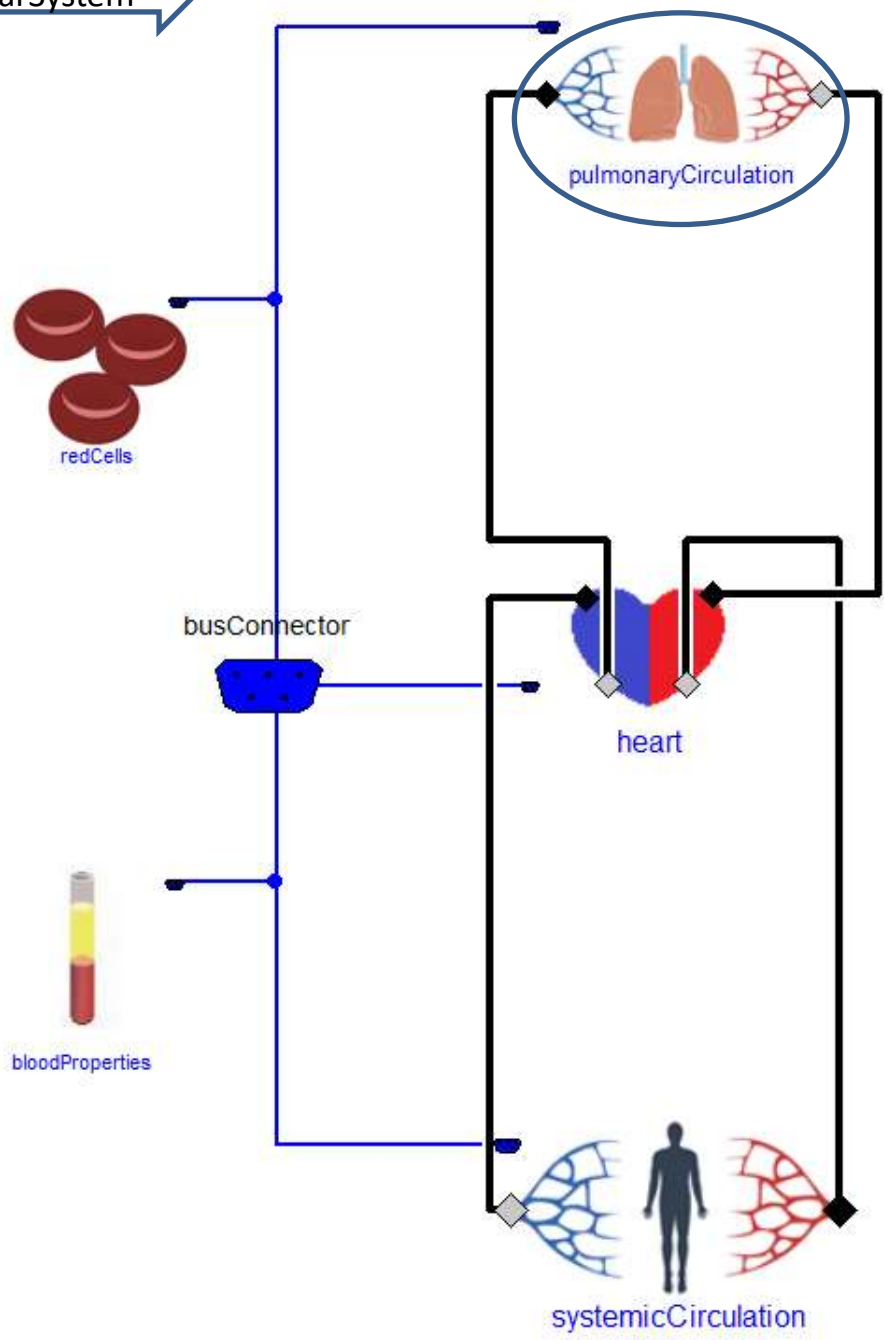
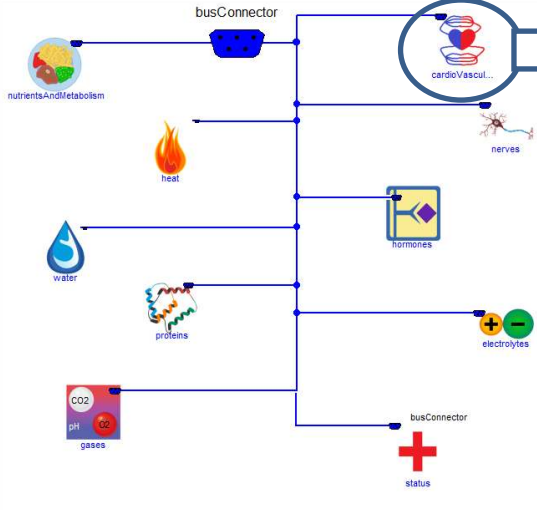
```
end Variables;
```

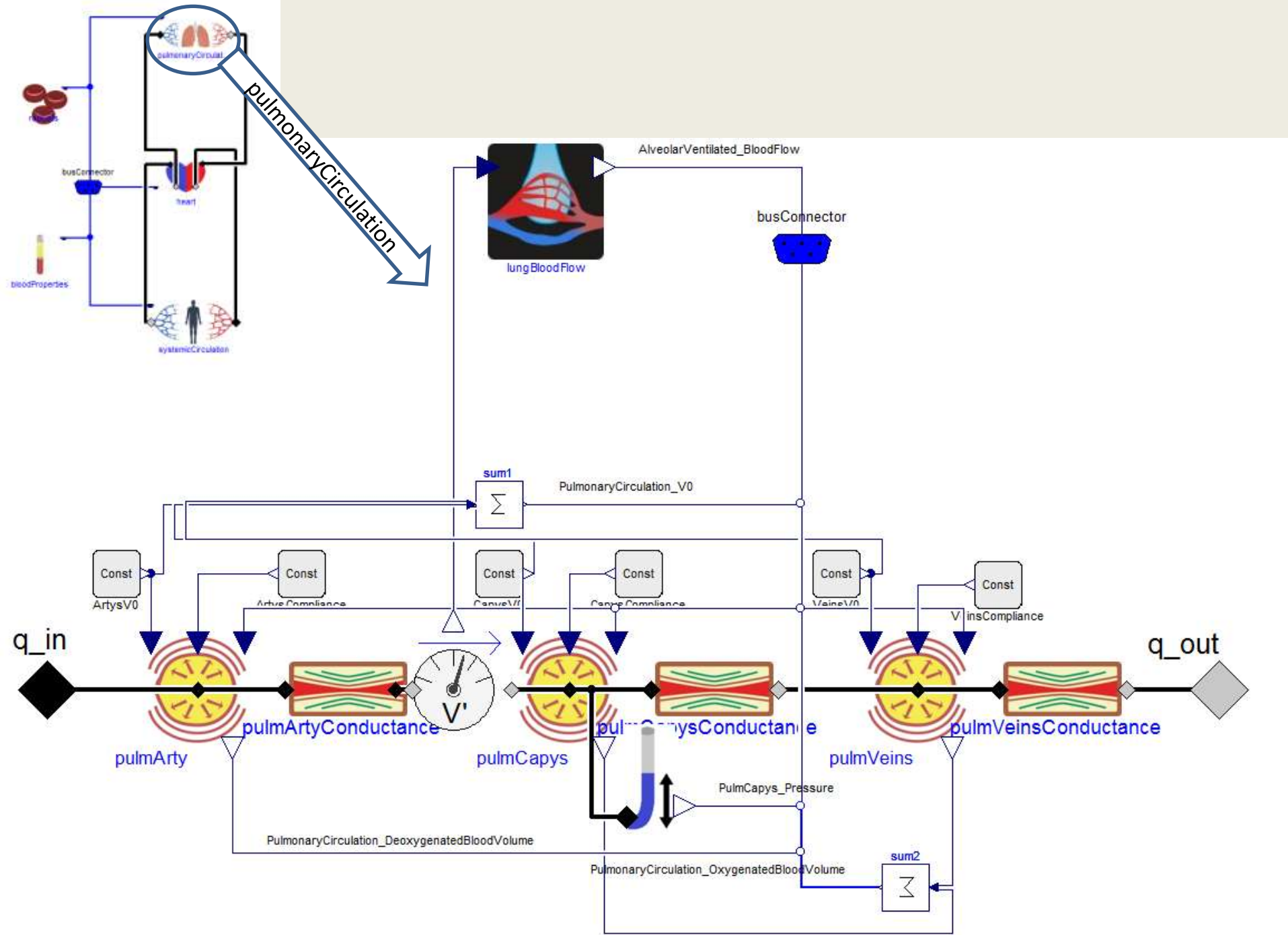
IO_Bus usage

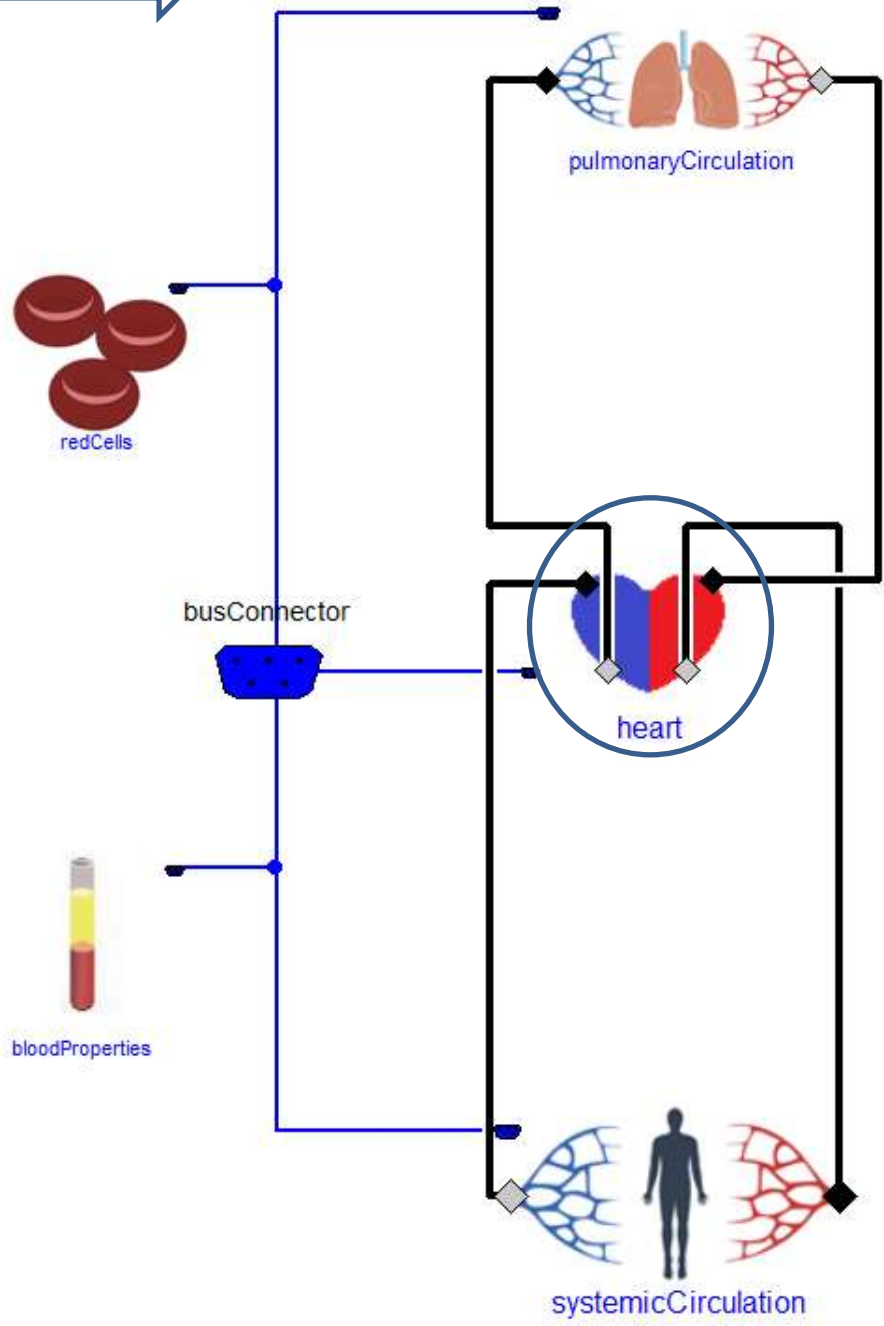
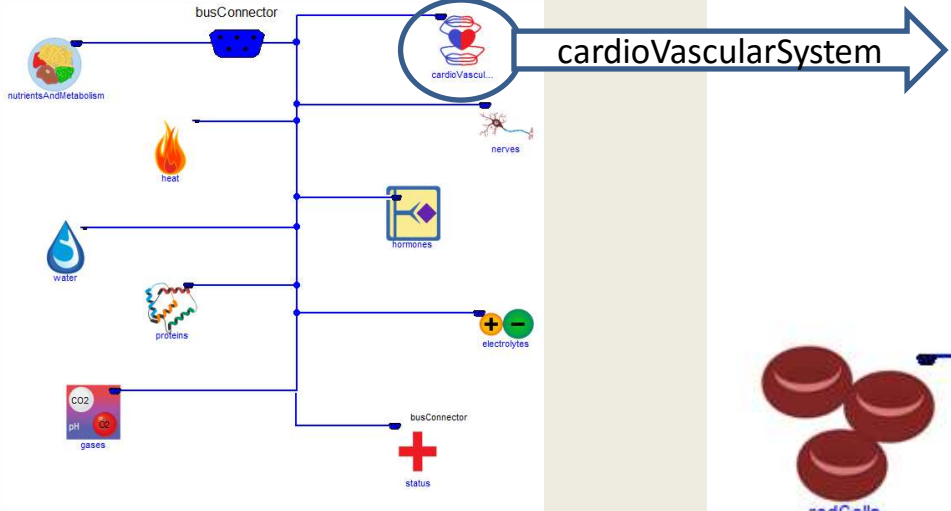


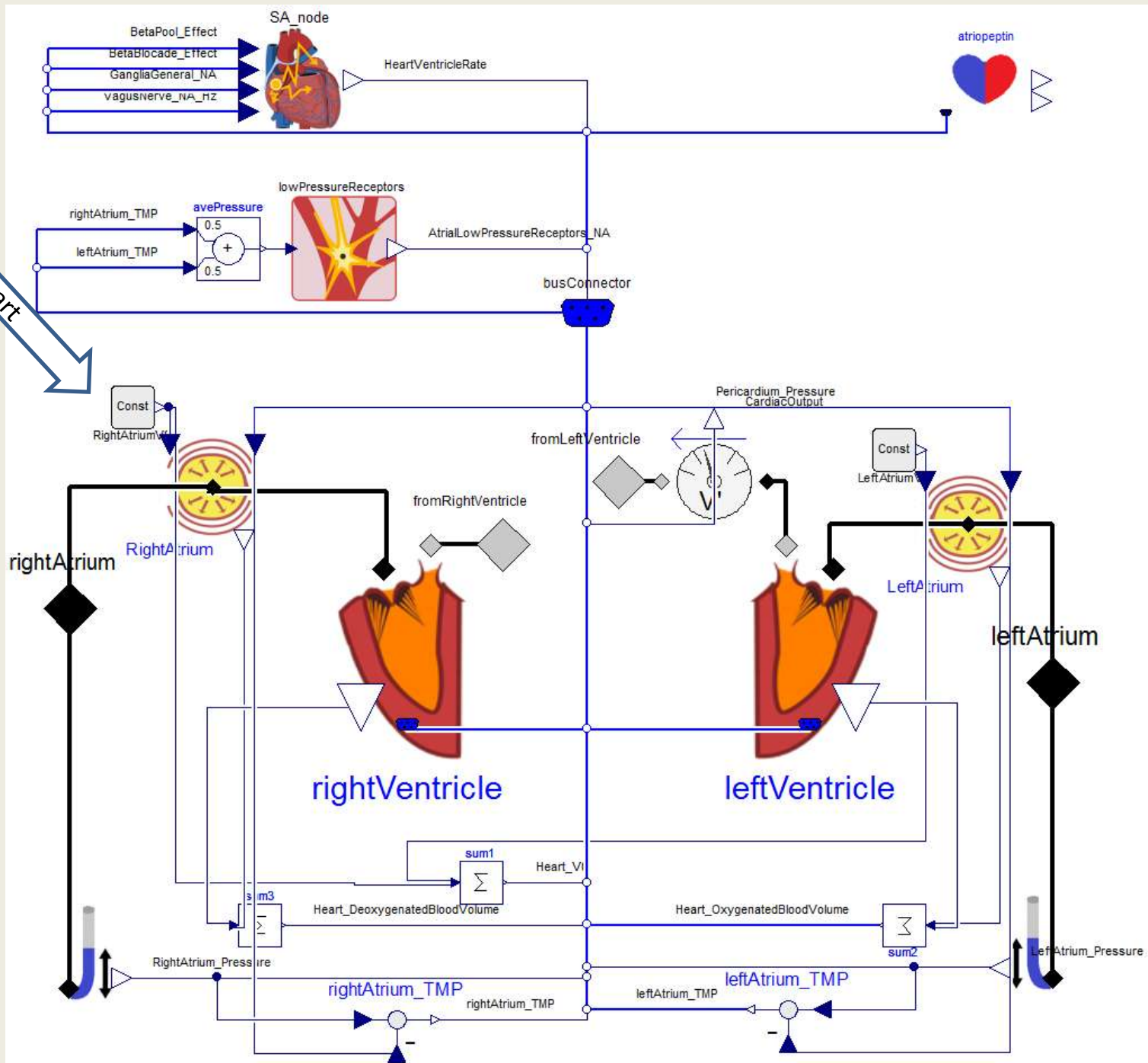
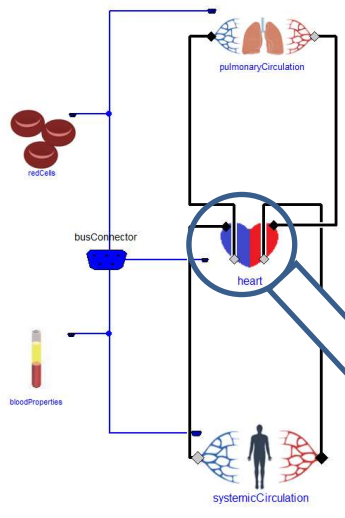


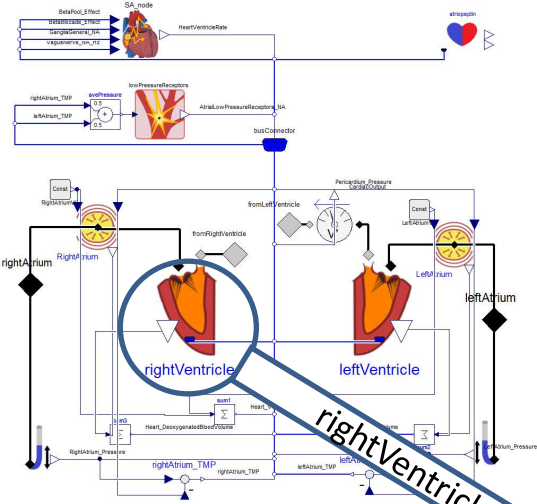




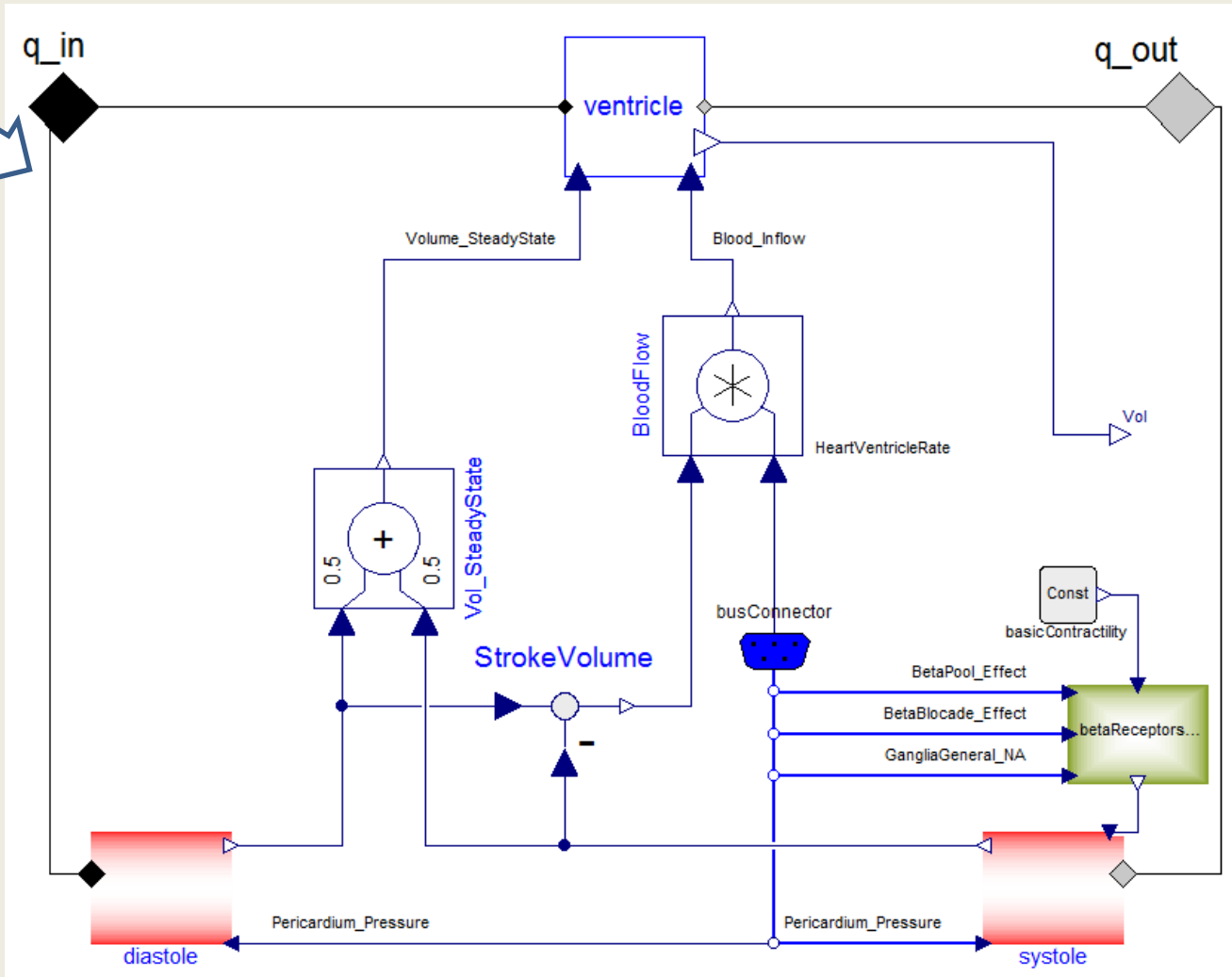


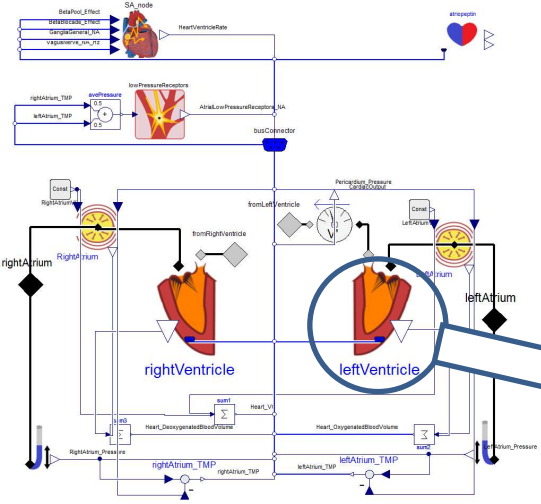




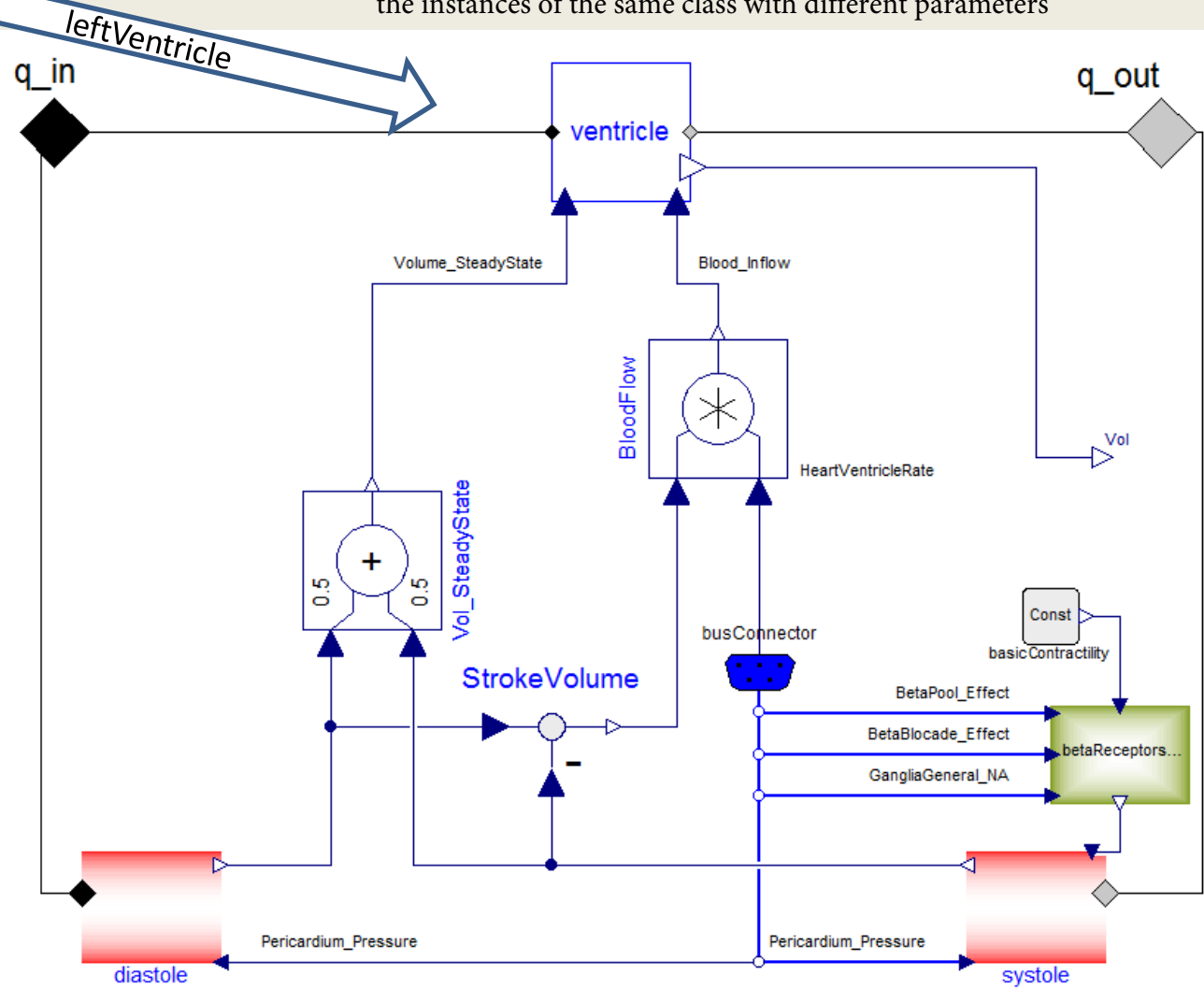


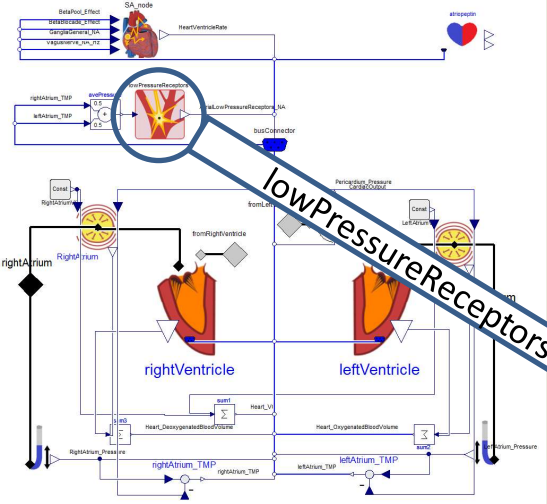
For rightVentricle and leftVentricle:
the instances of the same class with different parameters



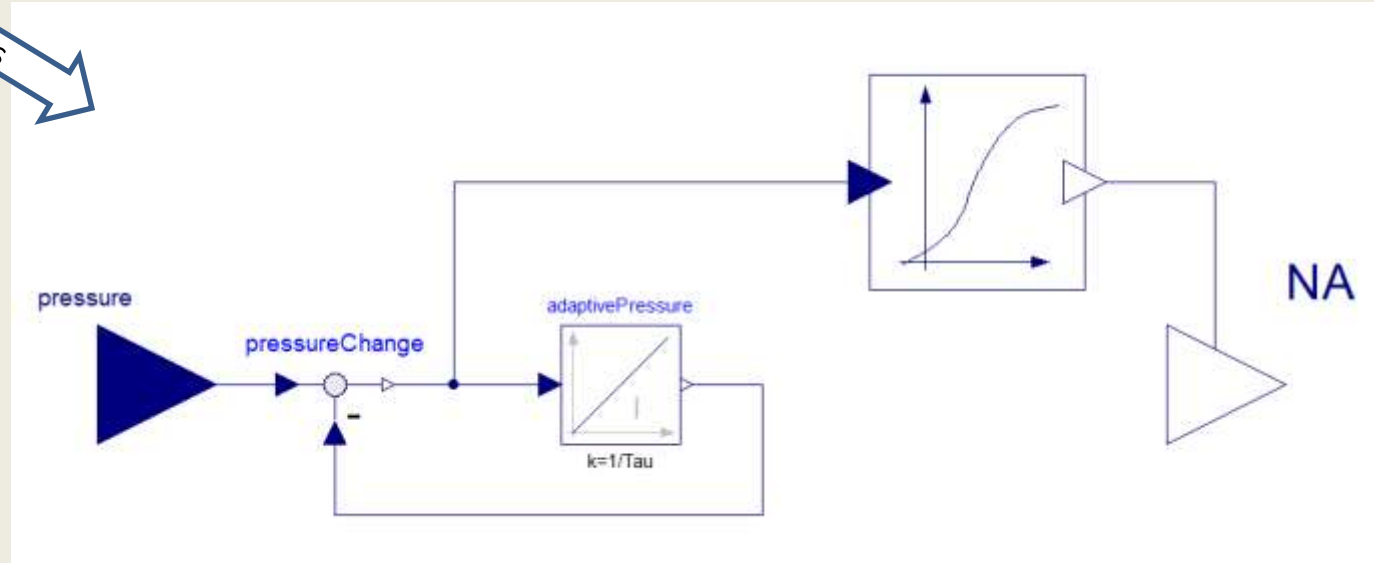


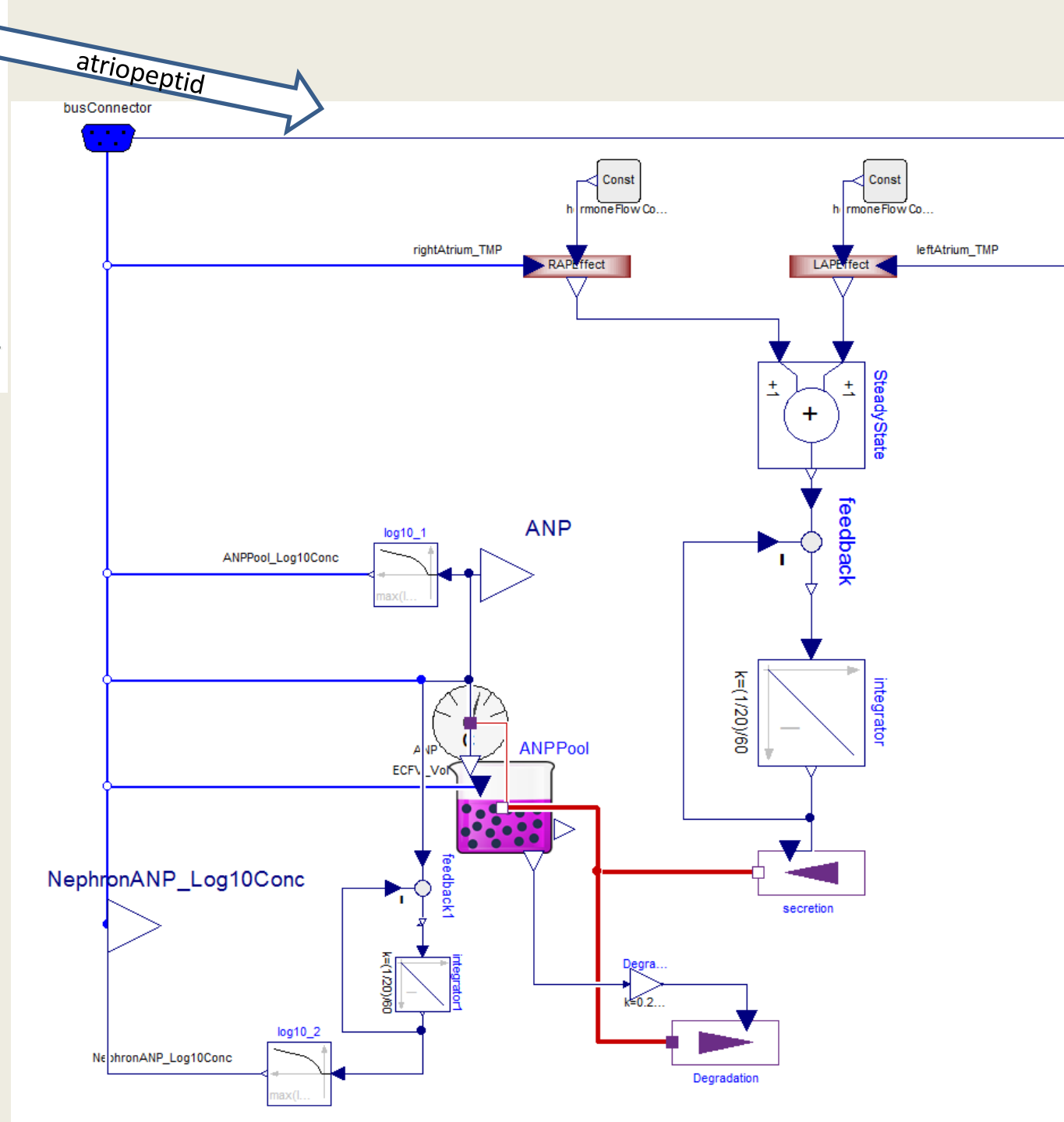
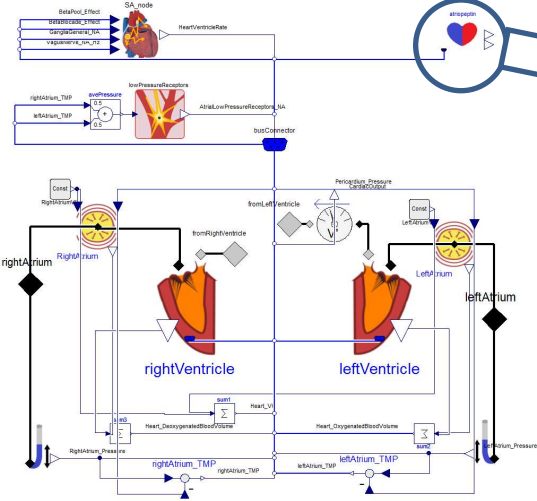
For rightVentricle and leftVentricle:
the instances of the same class with different parameters

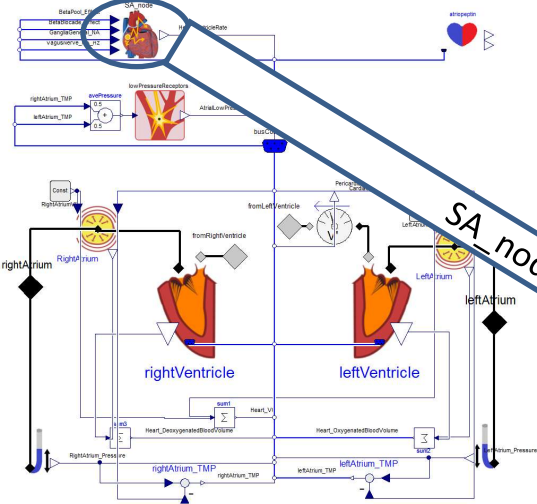




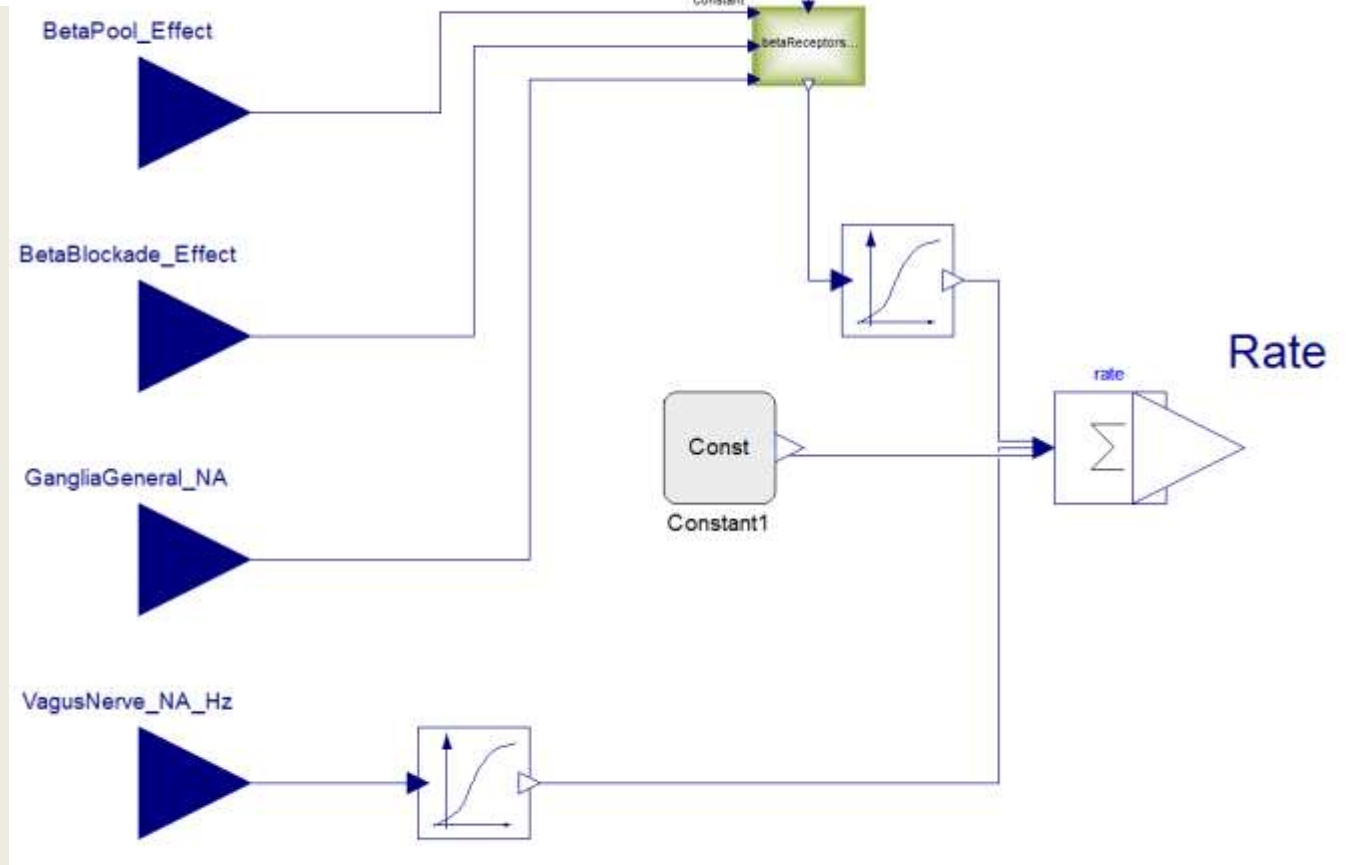
lowPressureReceptors

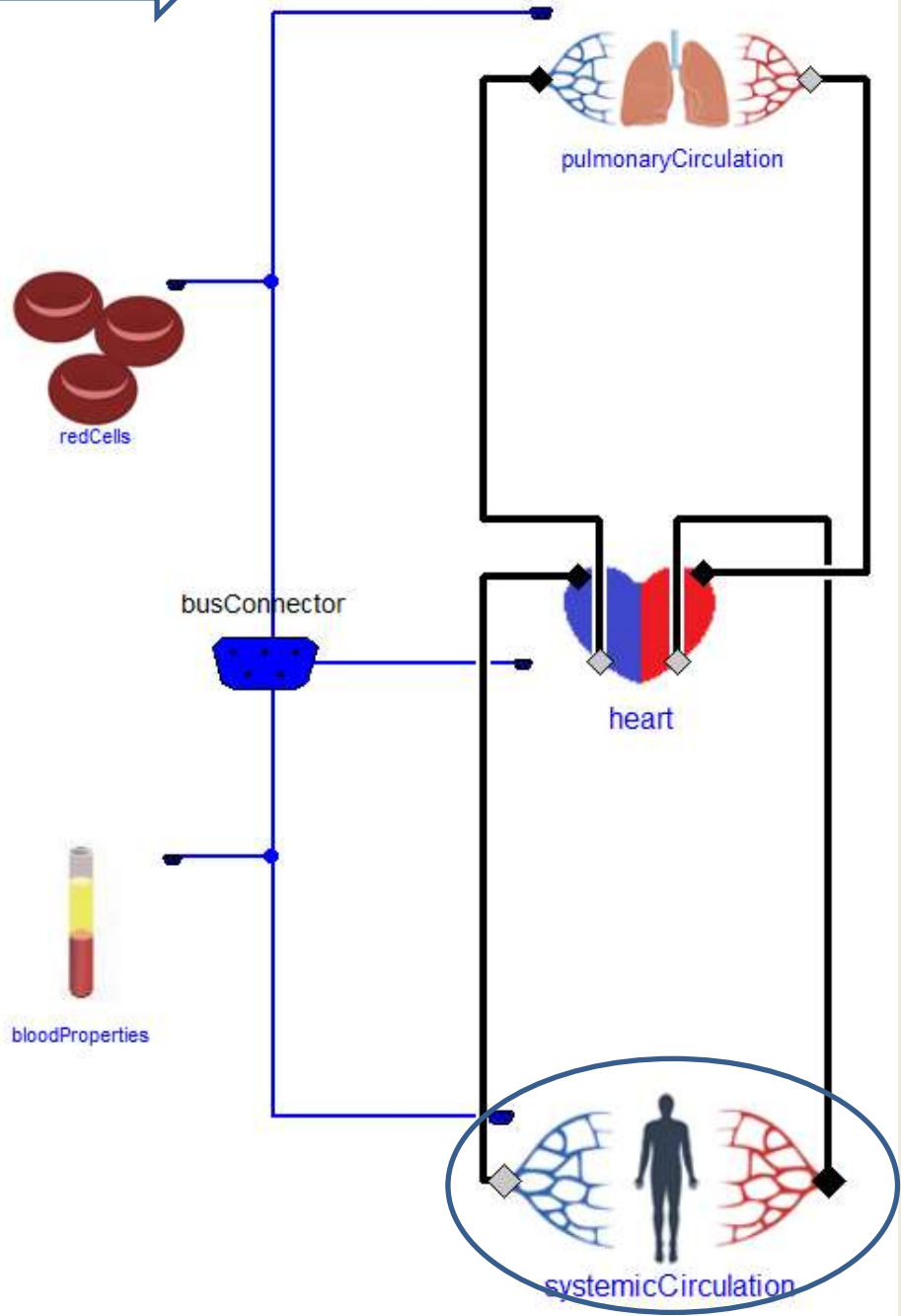
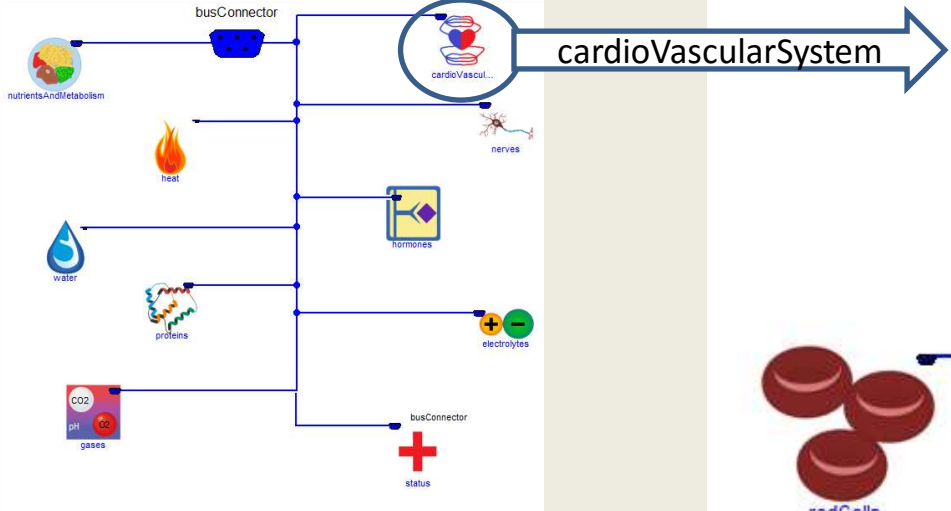


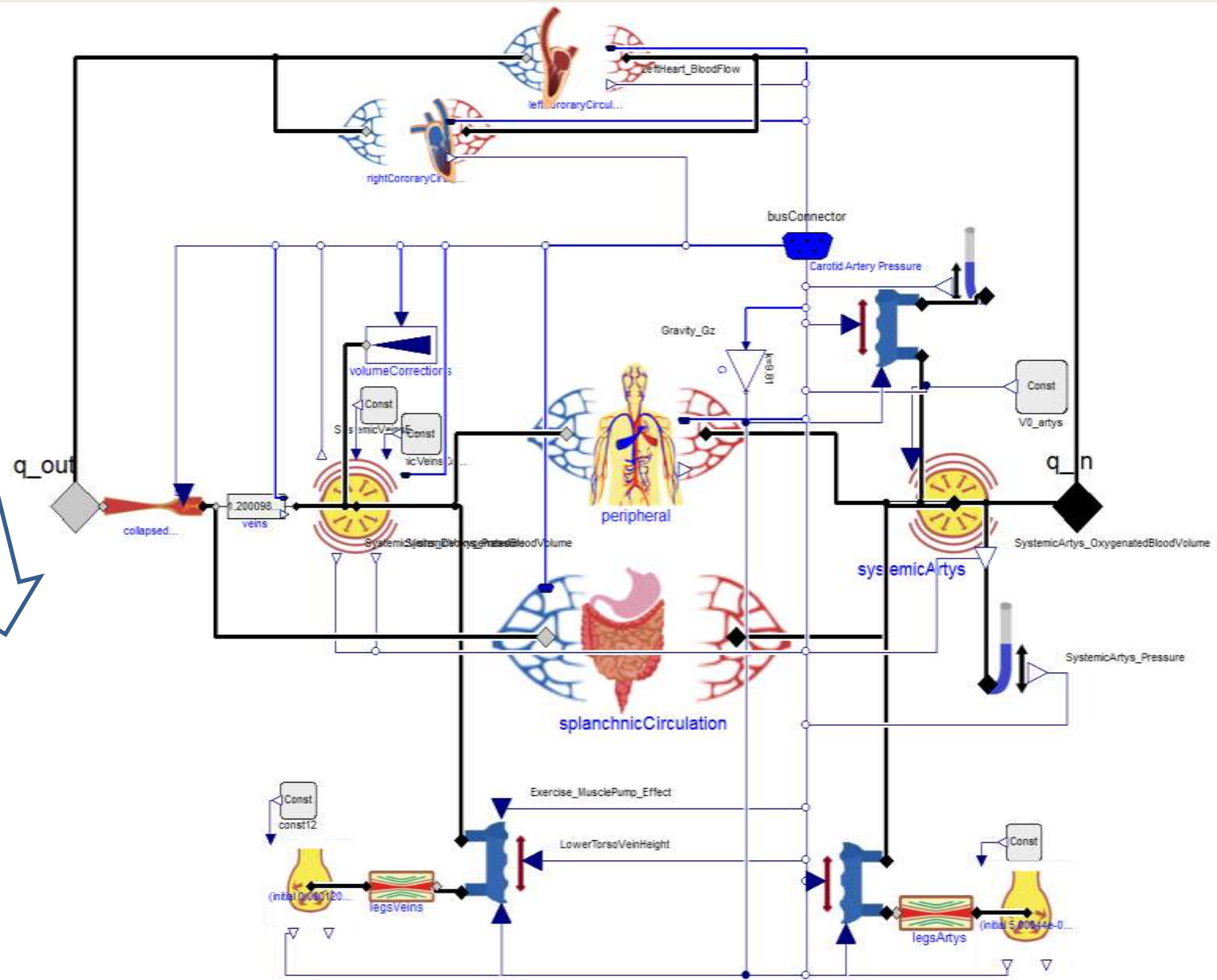
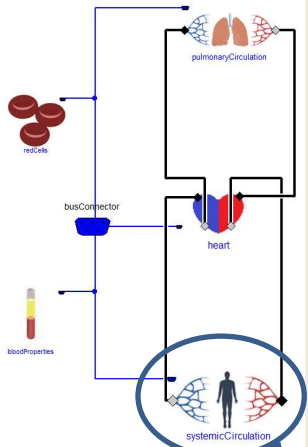


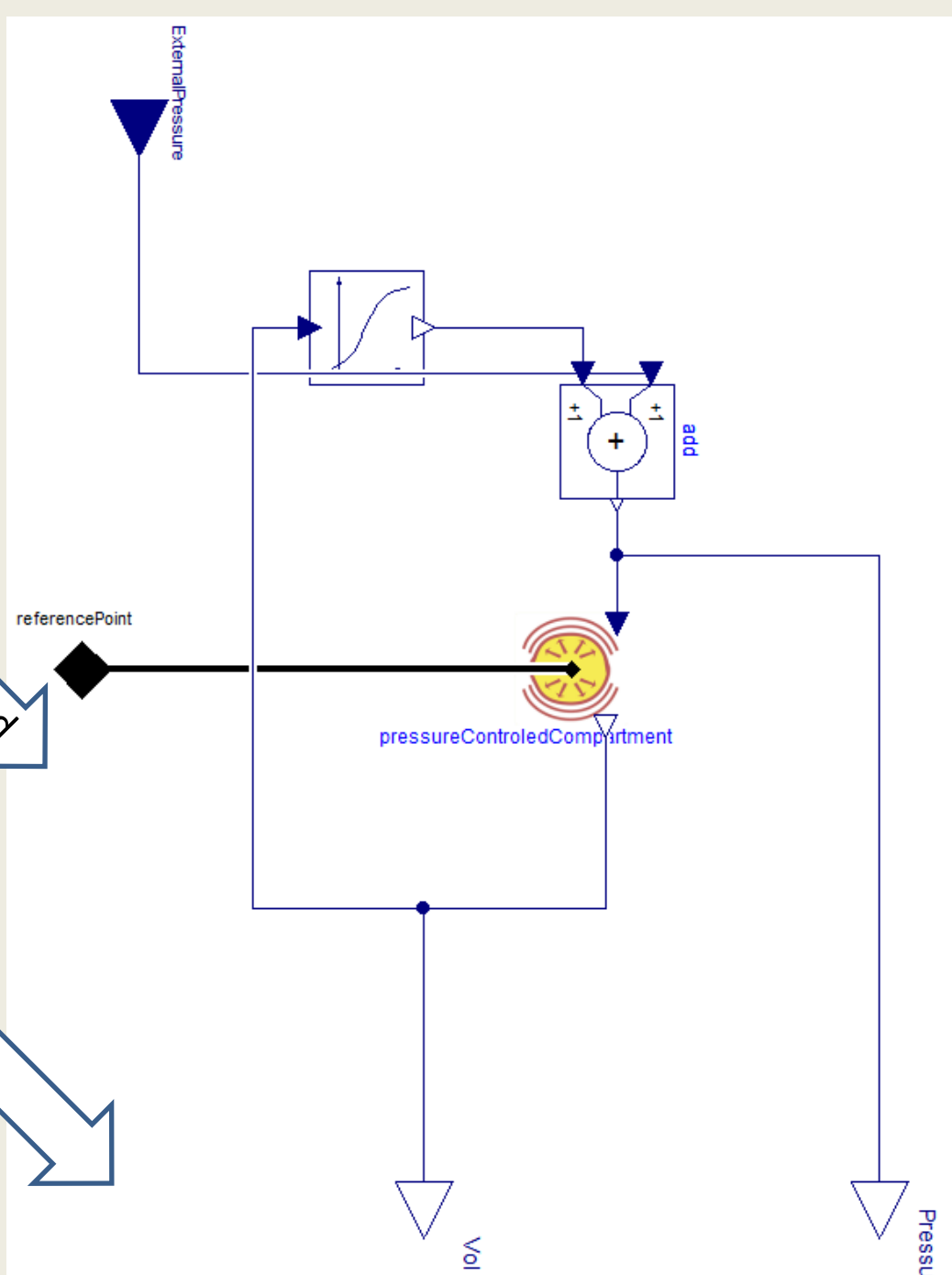
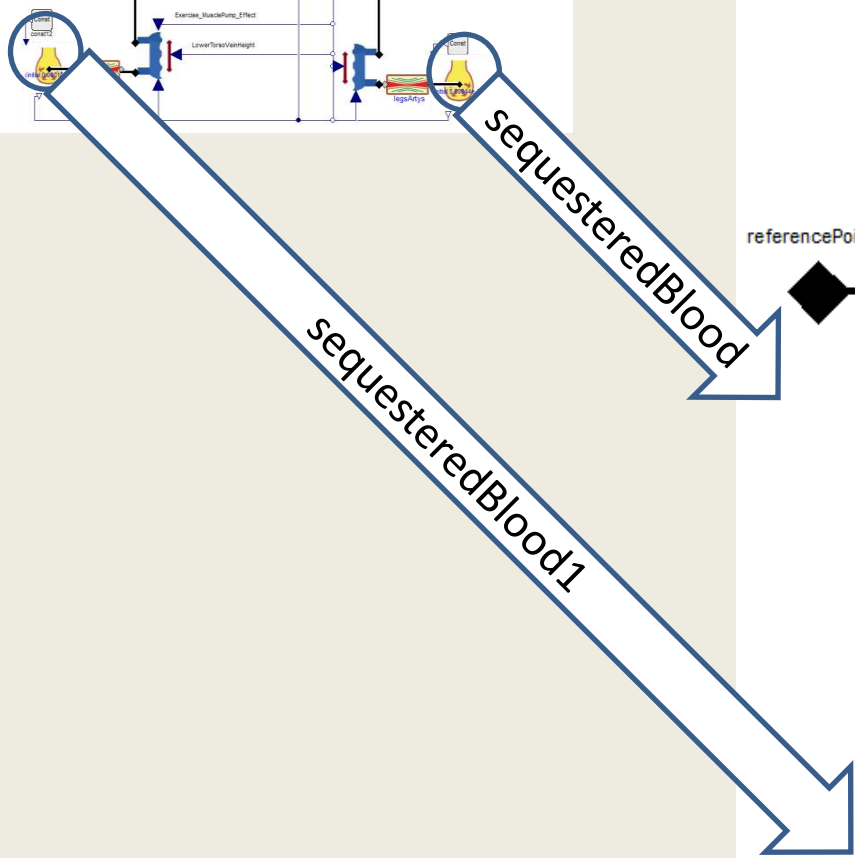
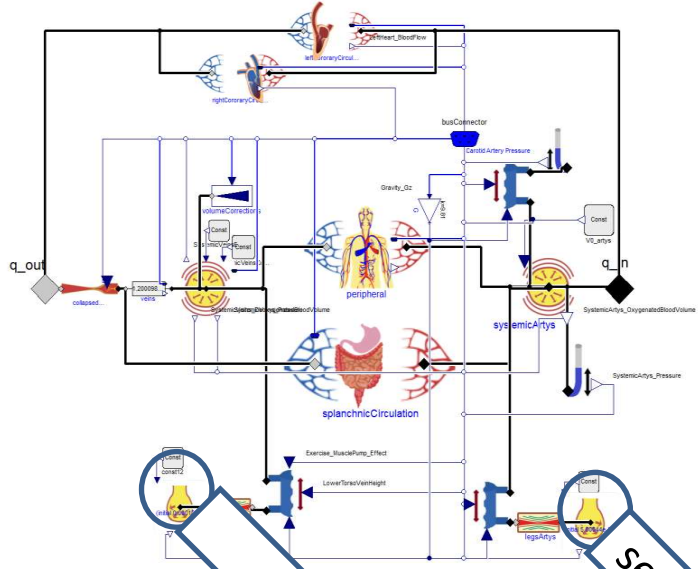


SA_node

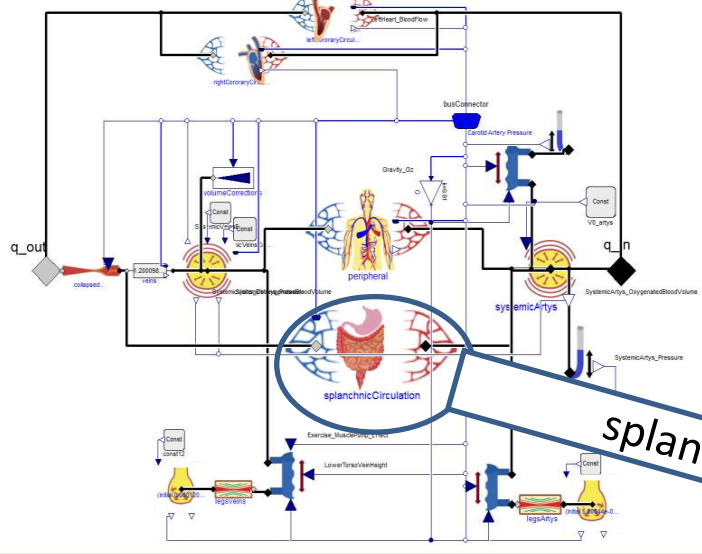




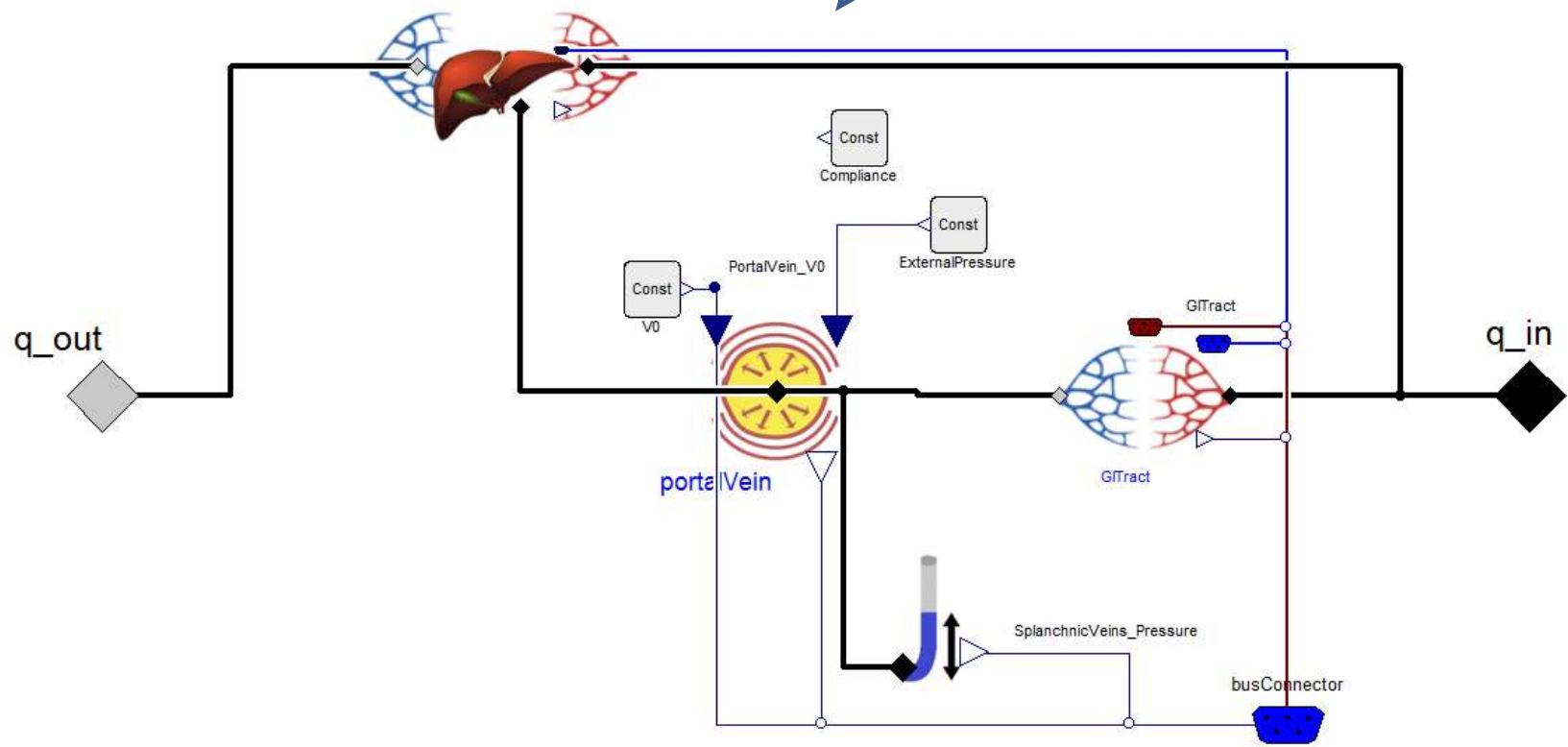




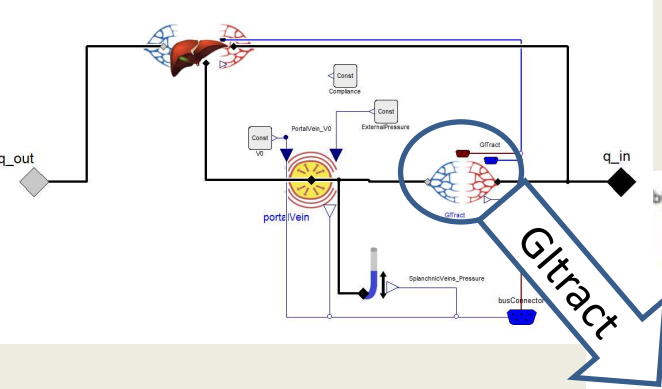
The instances of the same class with different parameters



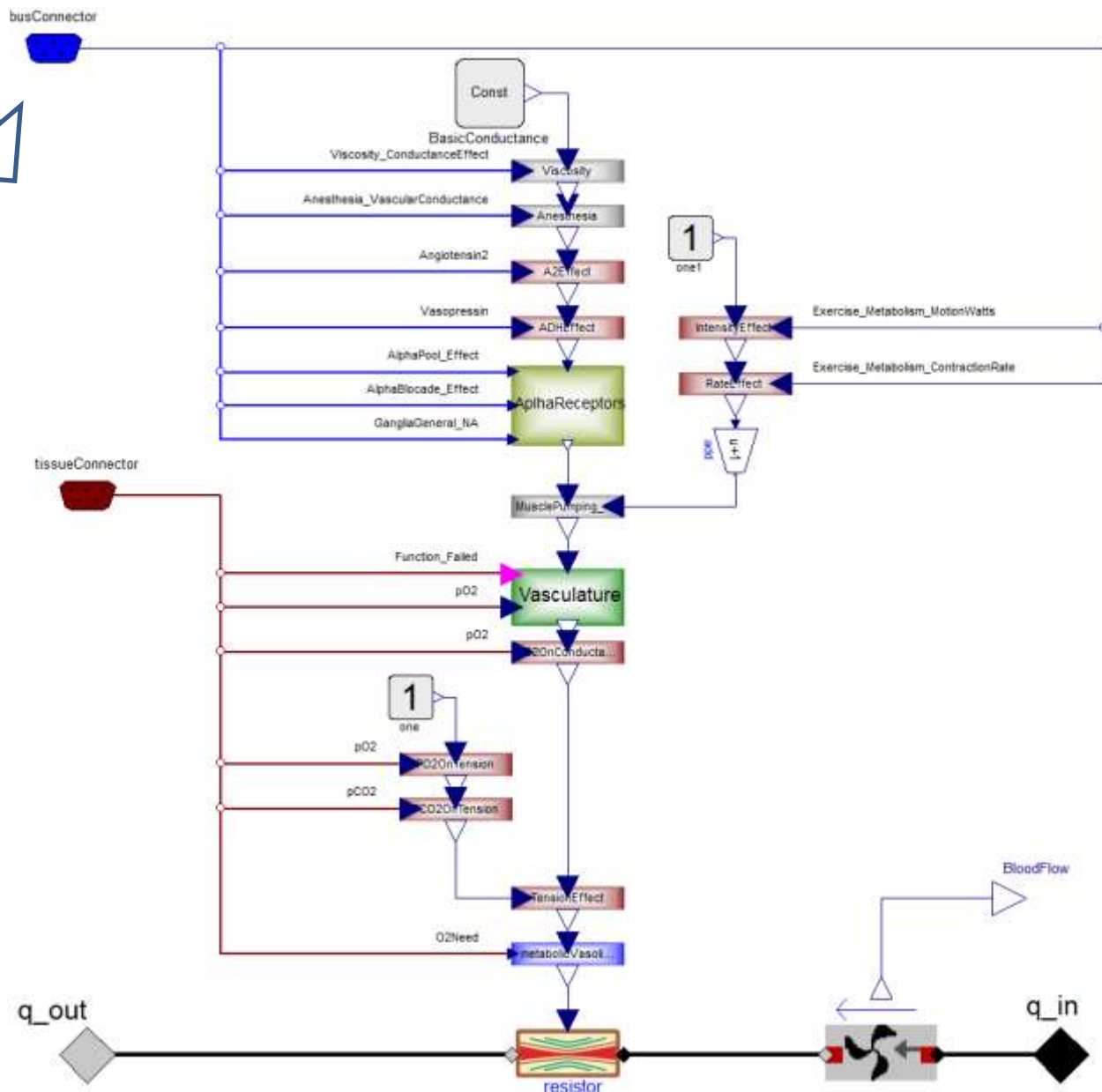
splanchnicCirculation

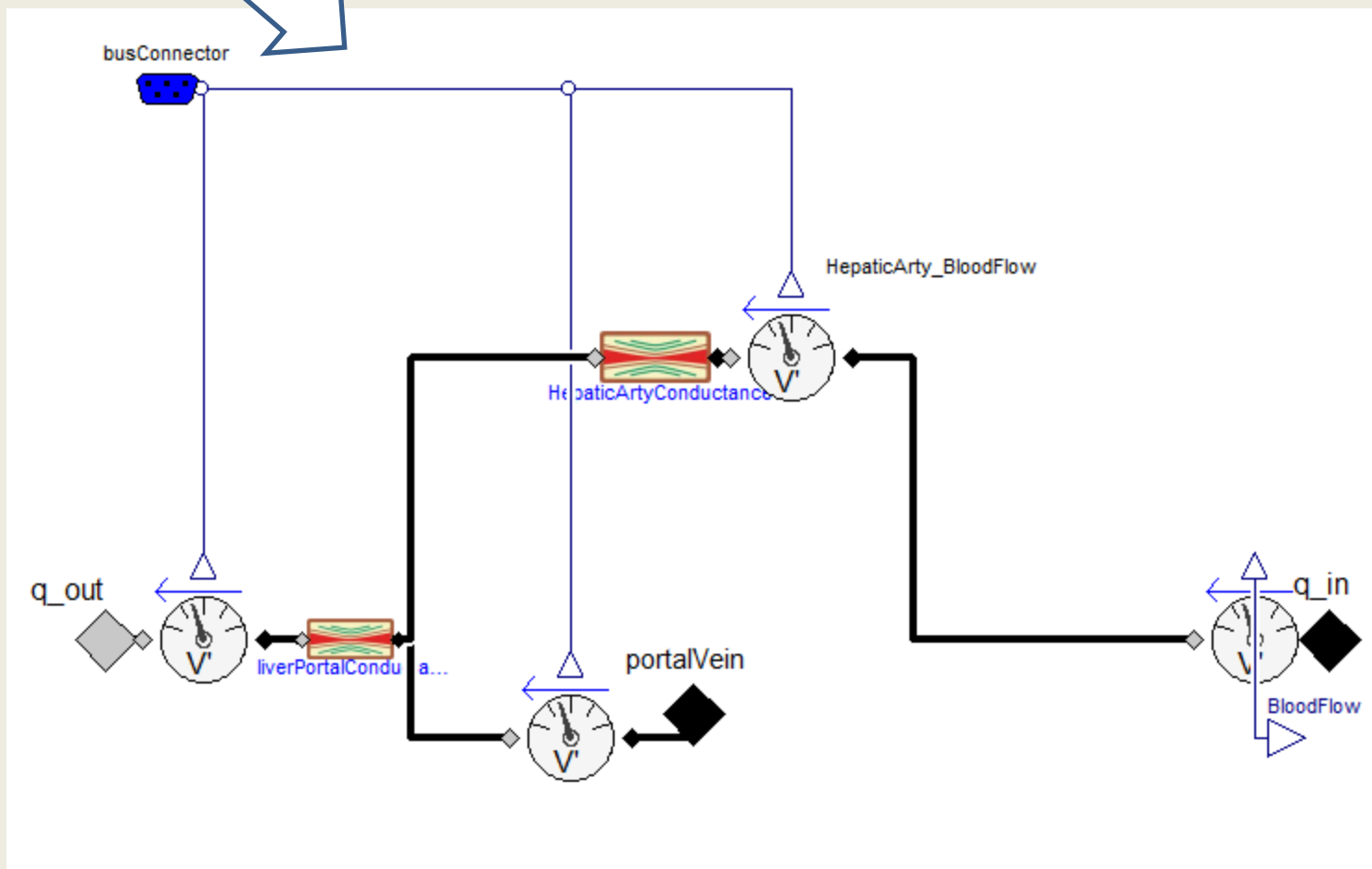
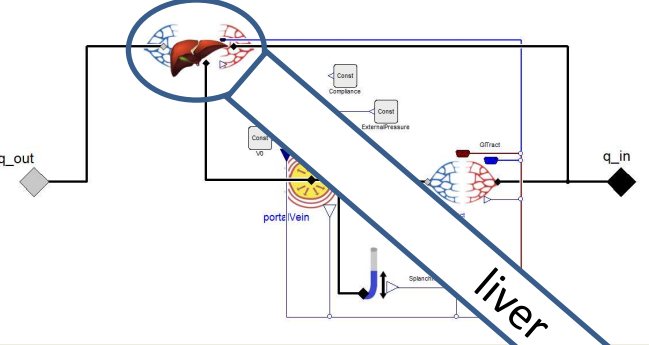


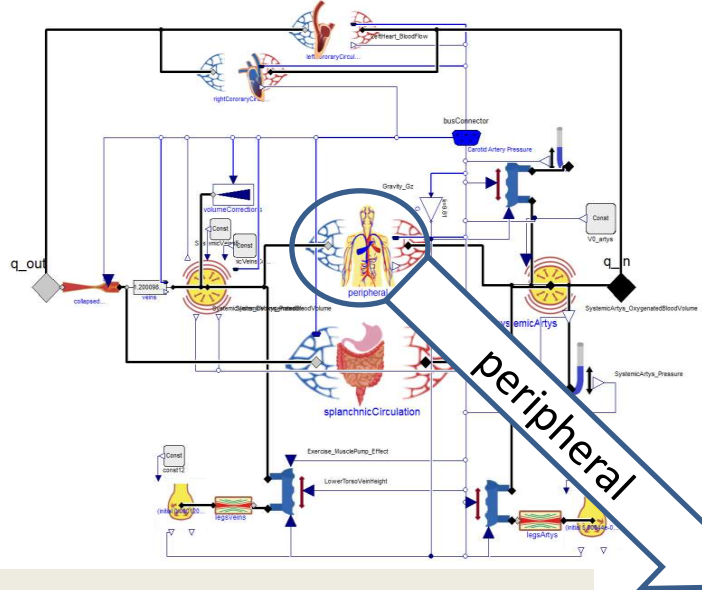
For GItract, bone, brain, fat, skeletalMuscle, respiratoryMuscle, otherTissue:
the instances of the same class with different parameters



GItract

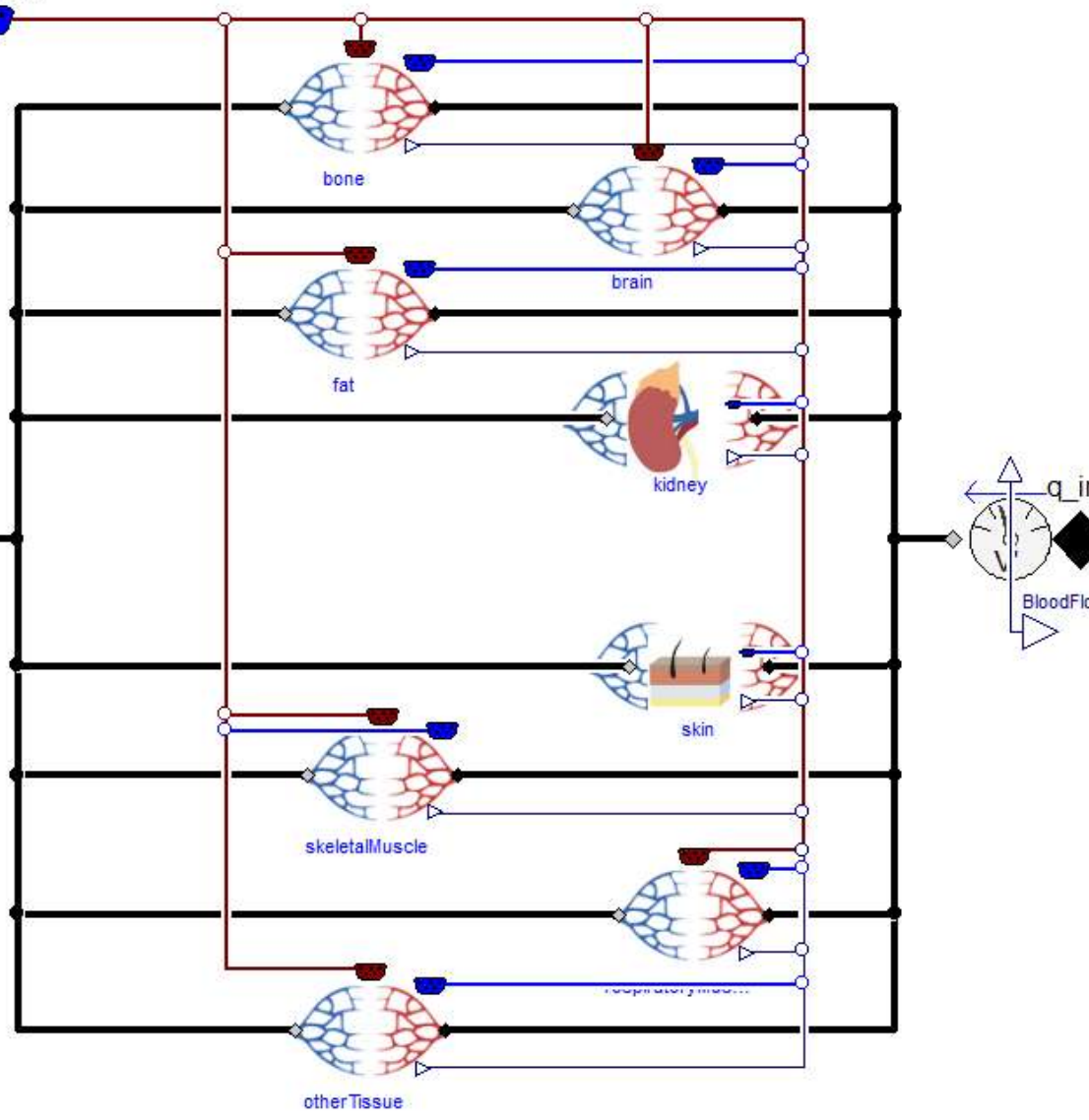


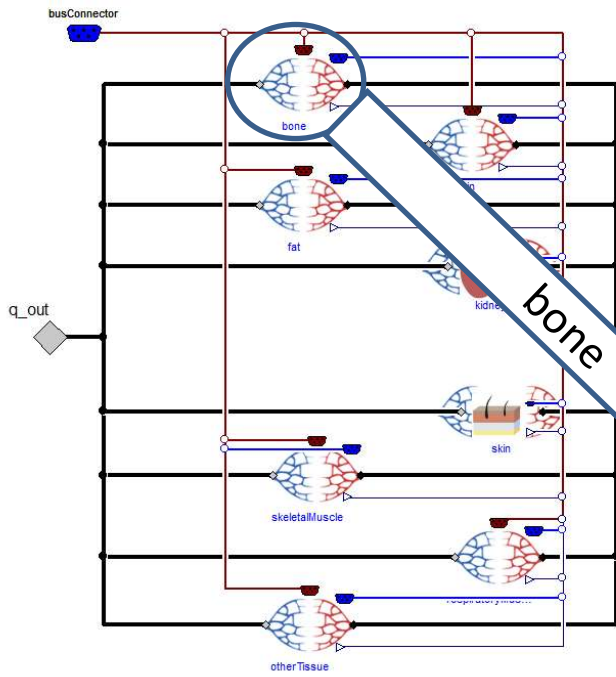




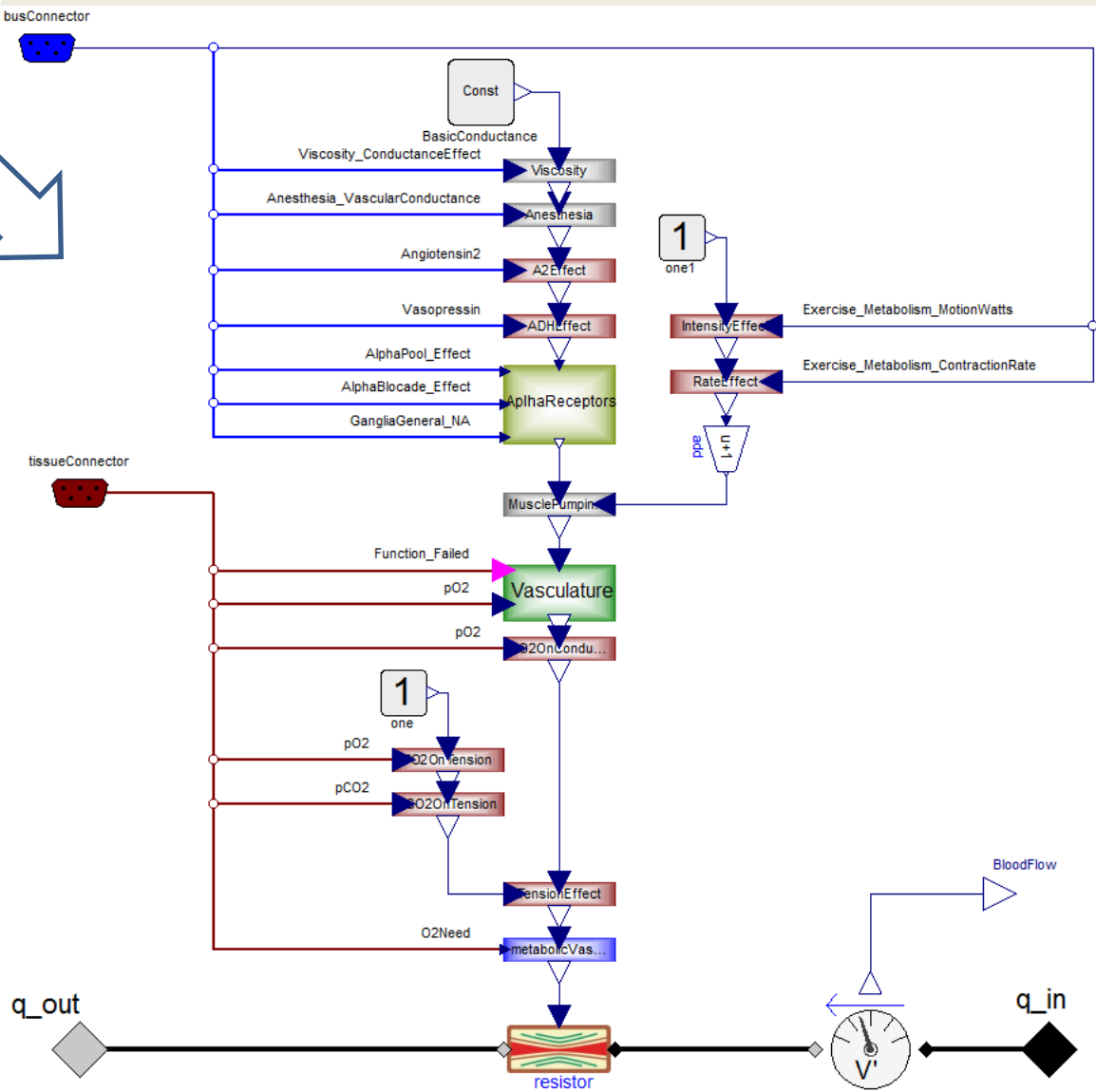
busConnector

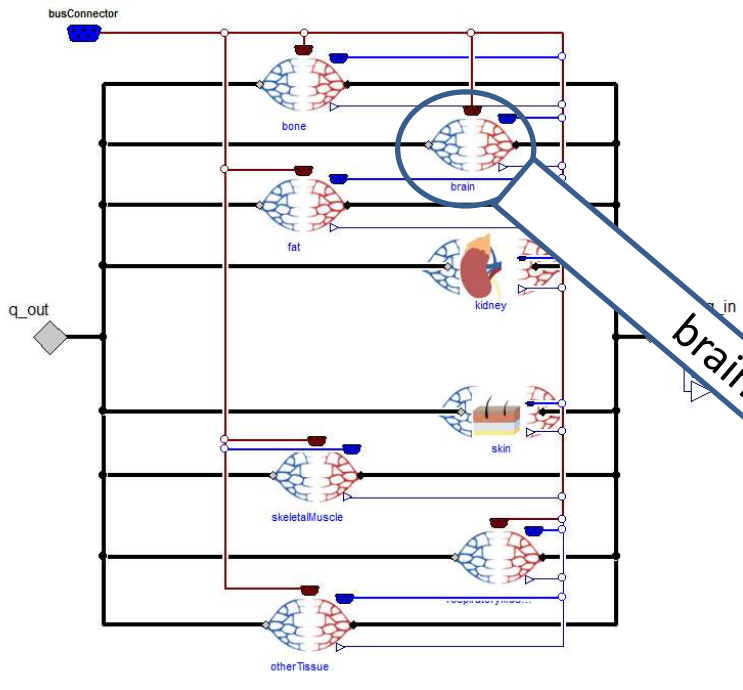
q_out



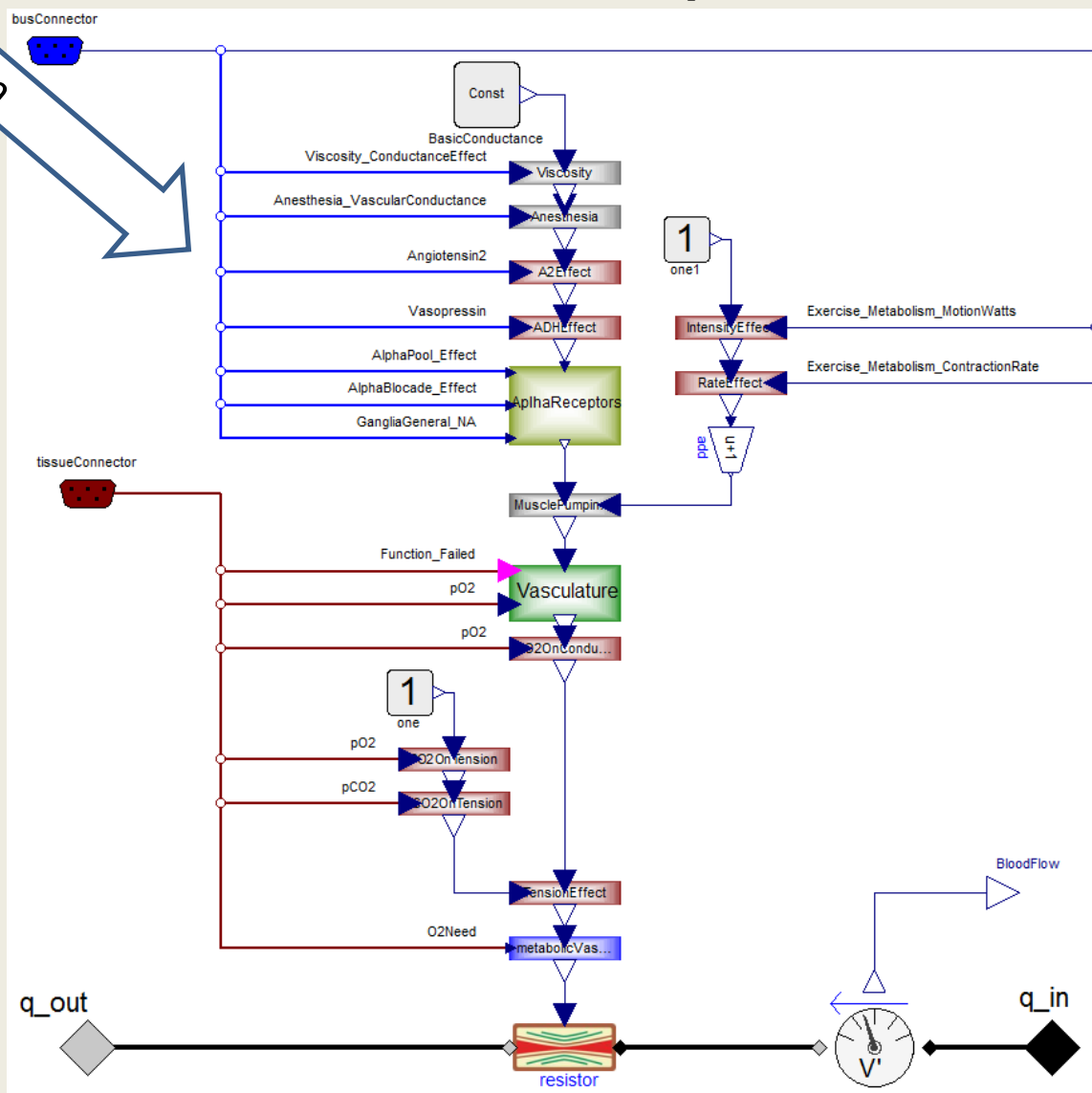


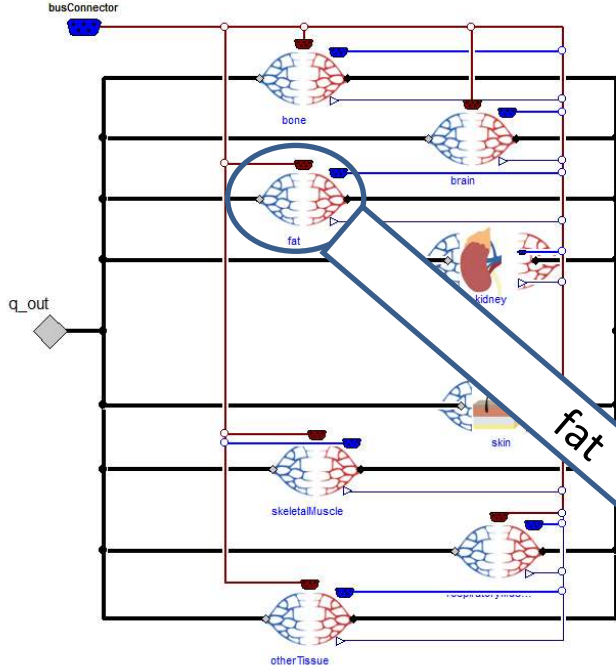
For GItract, bone, brain, fat, skeletalMuscle, respiratoryMuscle, otherTissue: the instances of the same class with different parameters



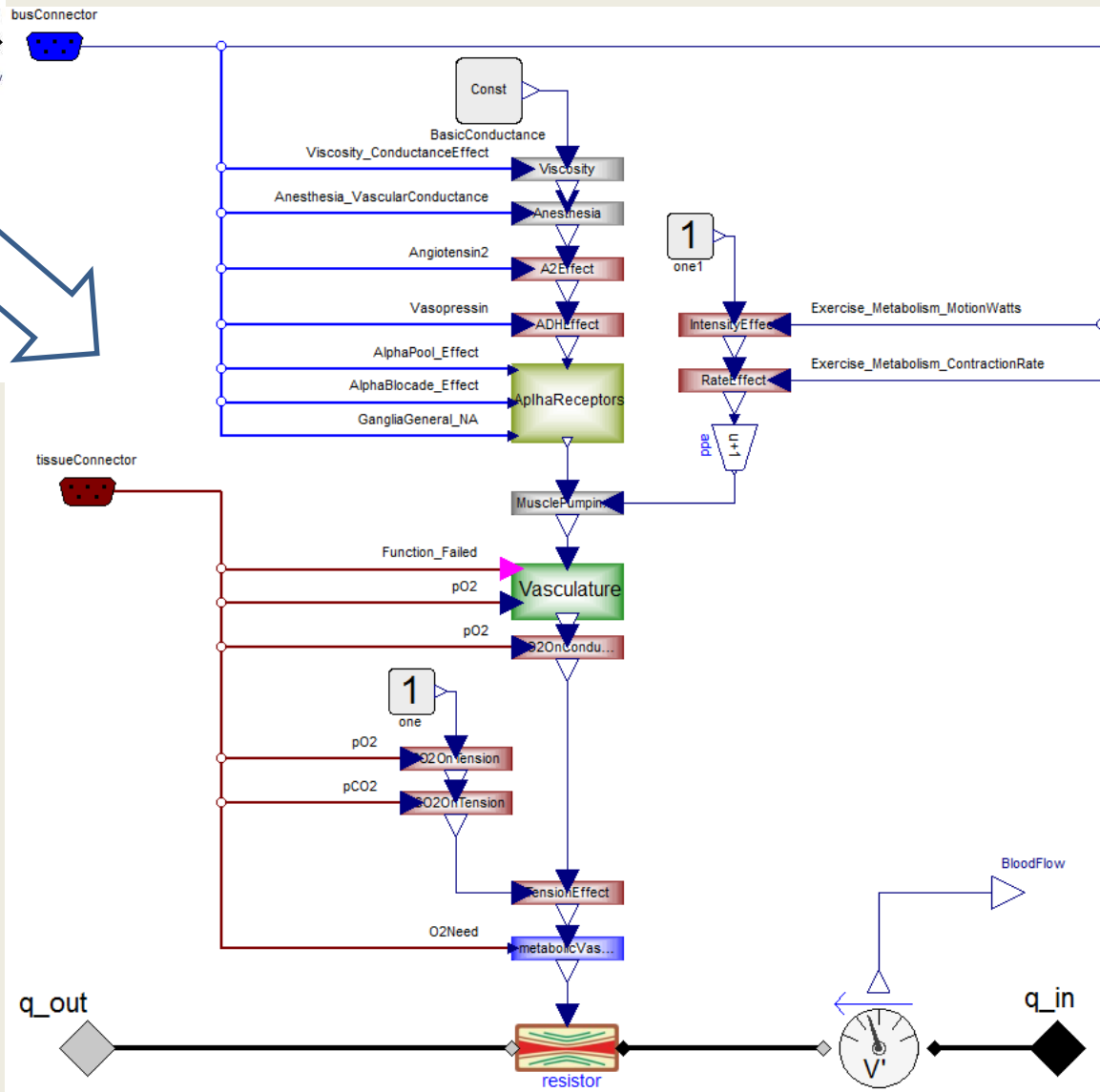


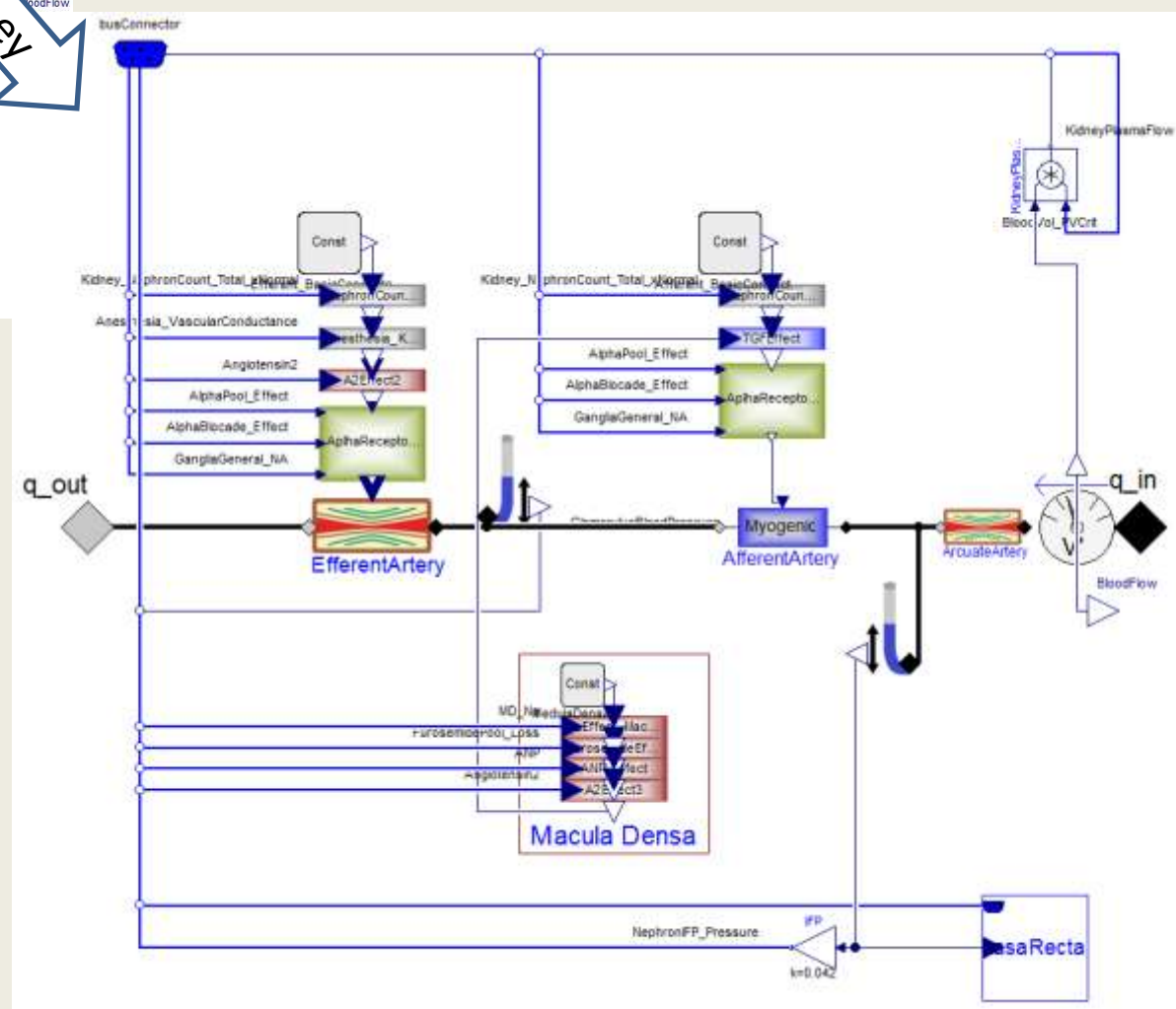
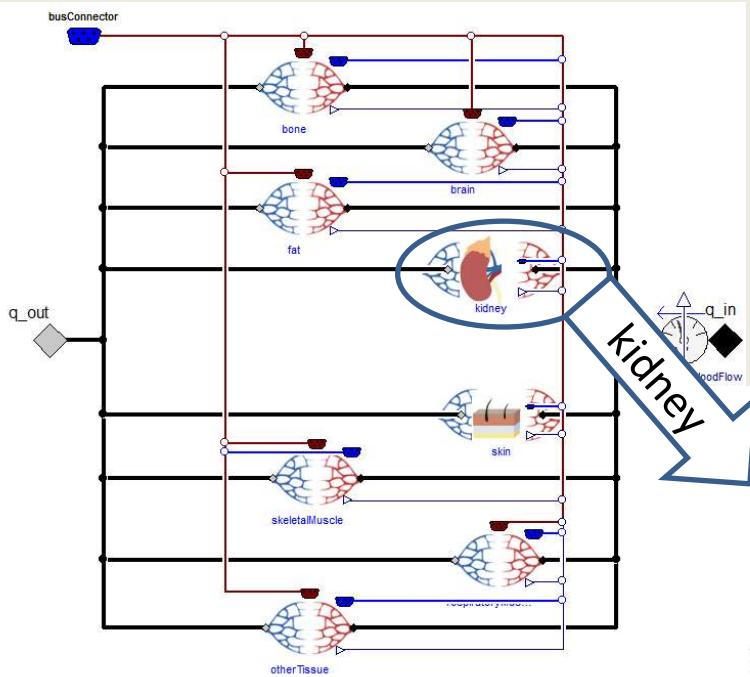
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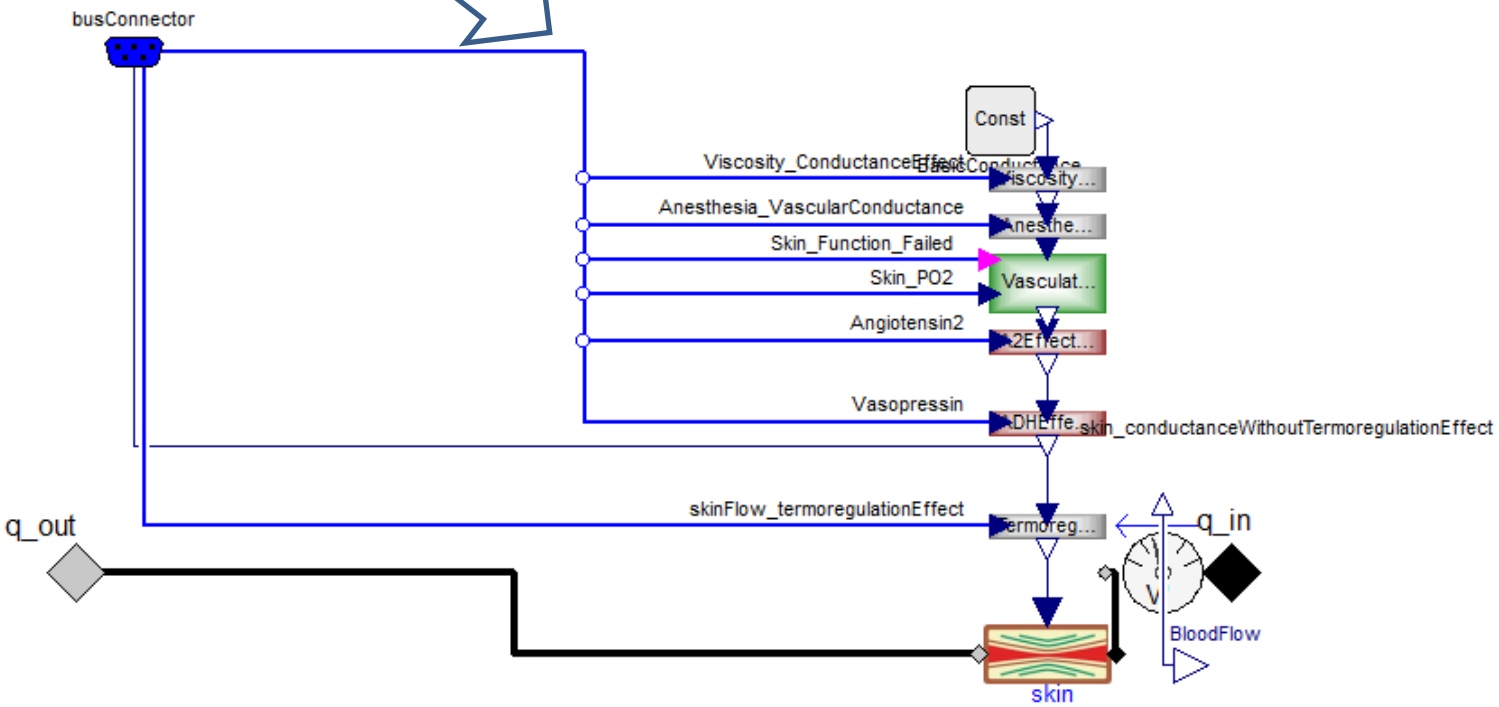
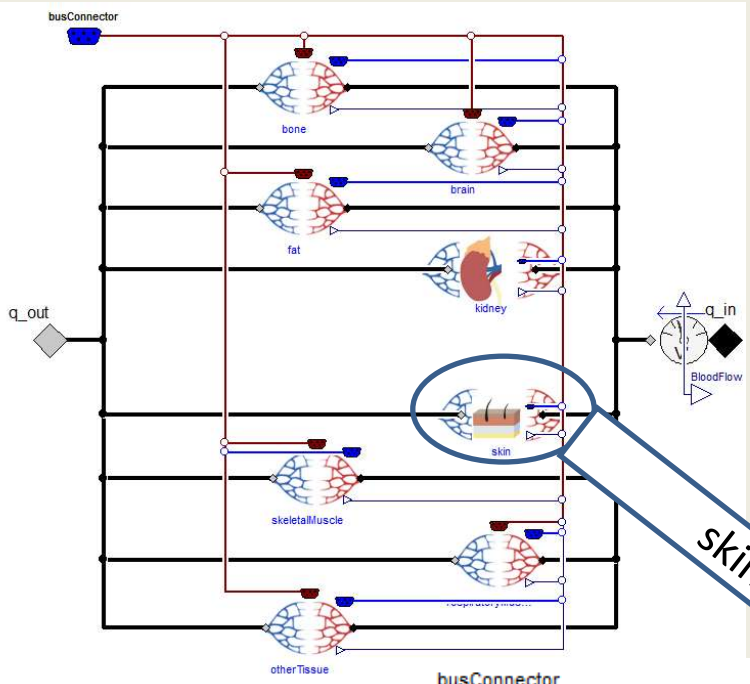


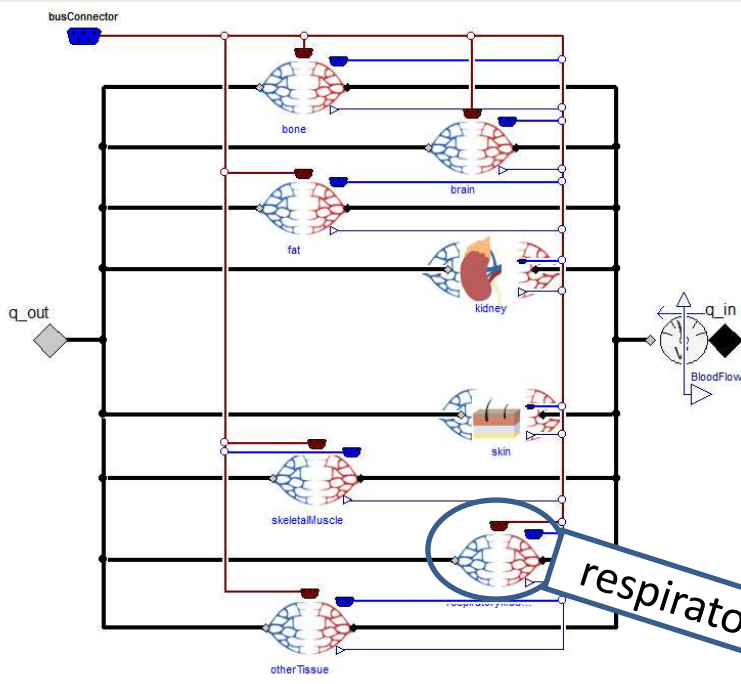


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the instances of the same class with different parameters



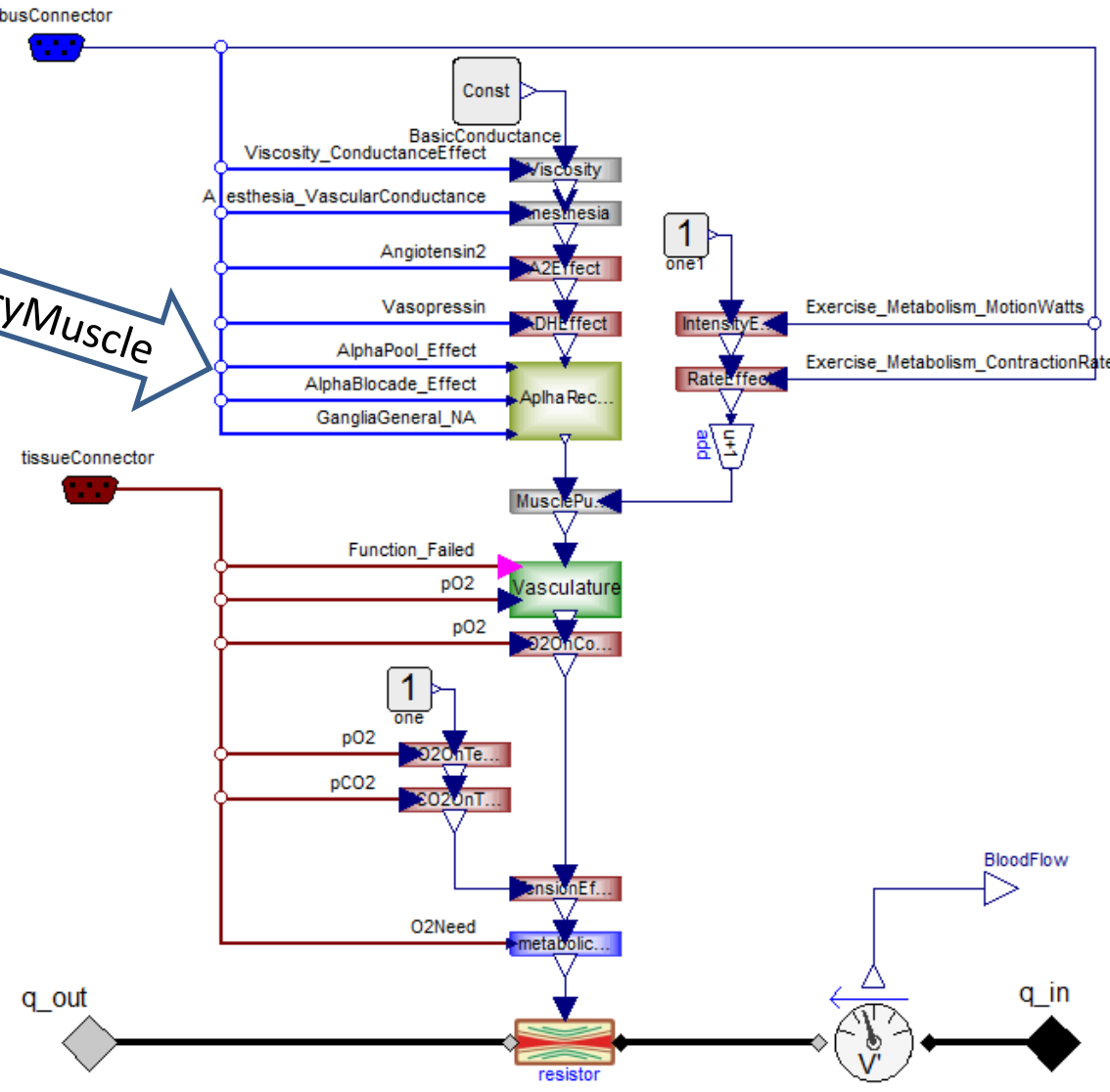


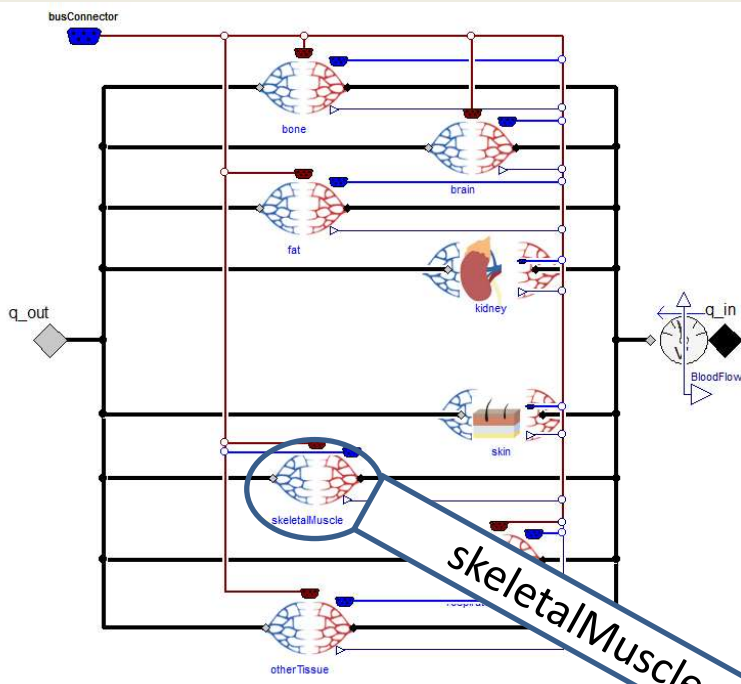




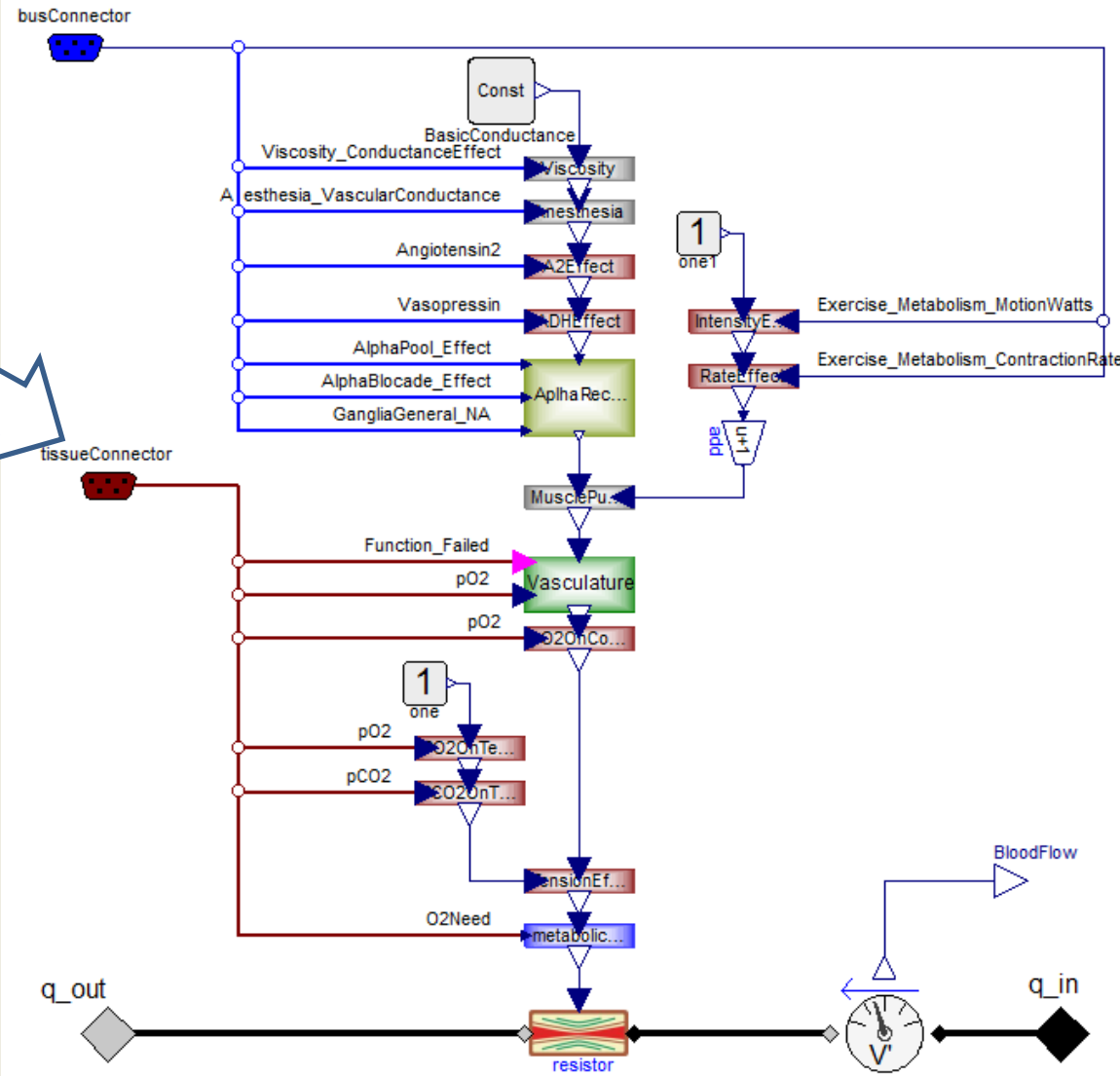
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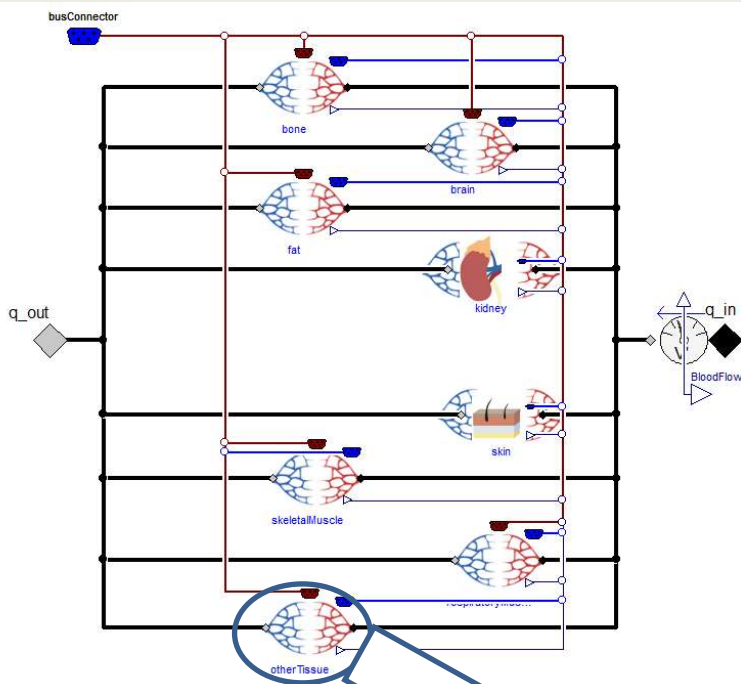
respiratoryMuscle



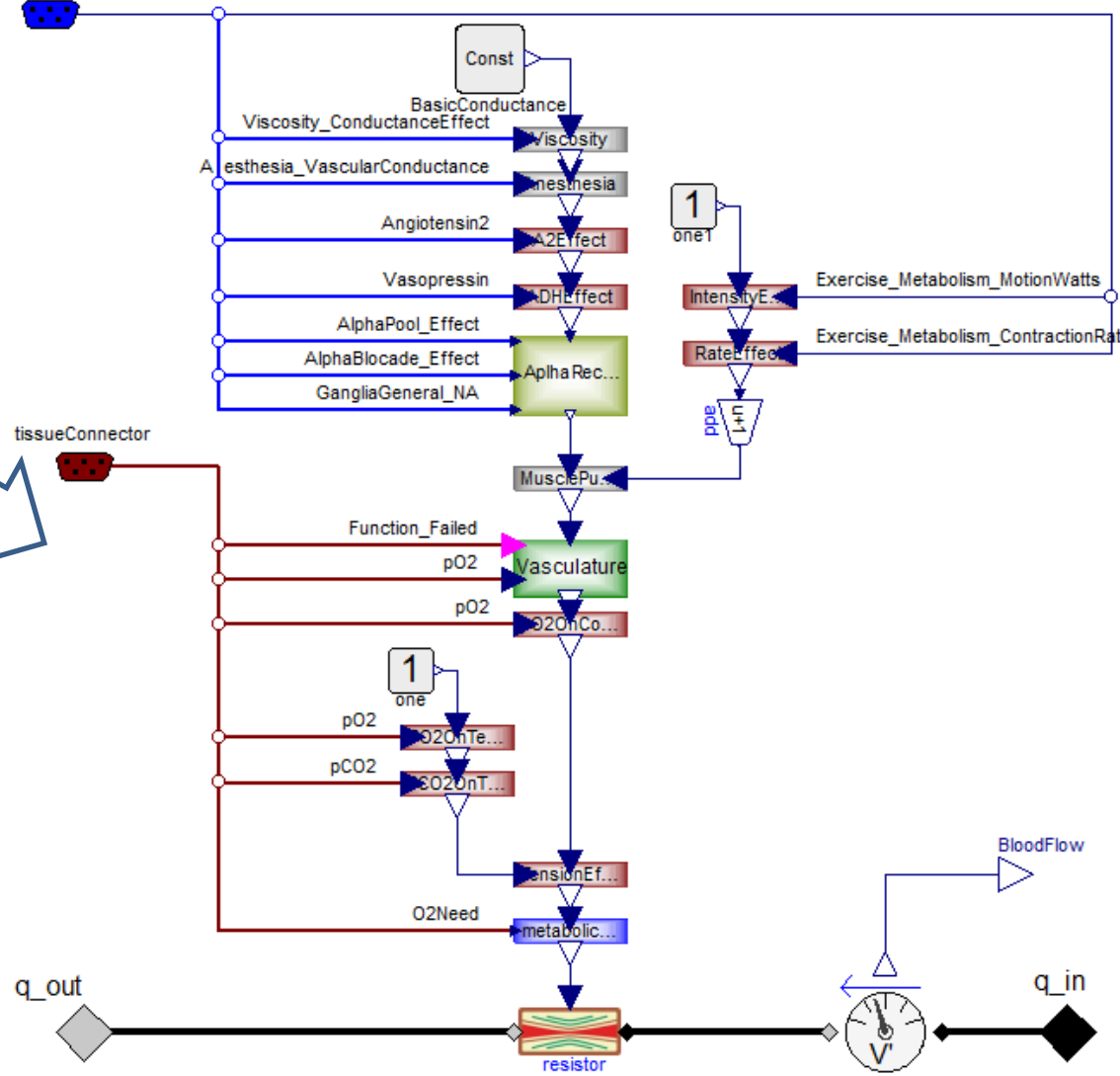
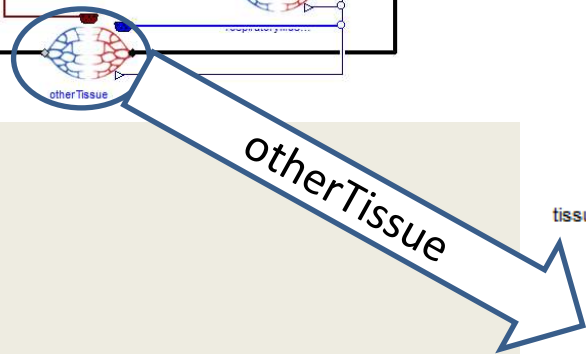


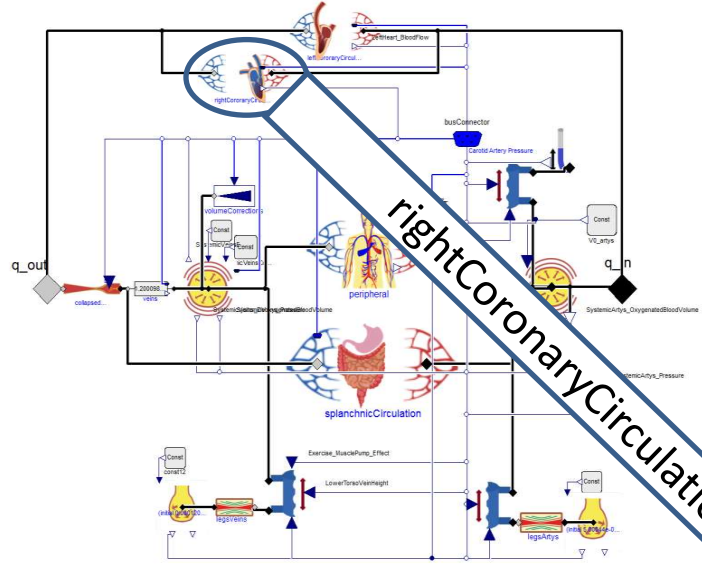
For GItract, bone, brain, fat, skeletalMuscle, respiratoryMuscle, otherTissue:
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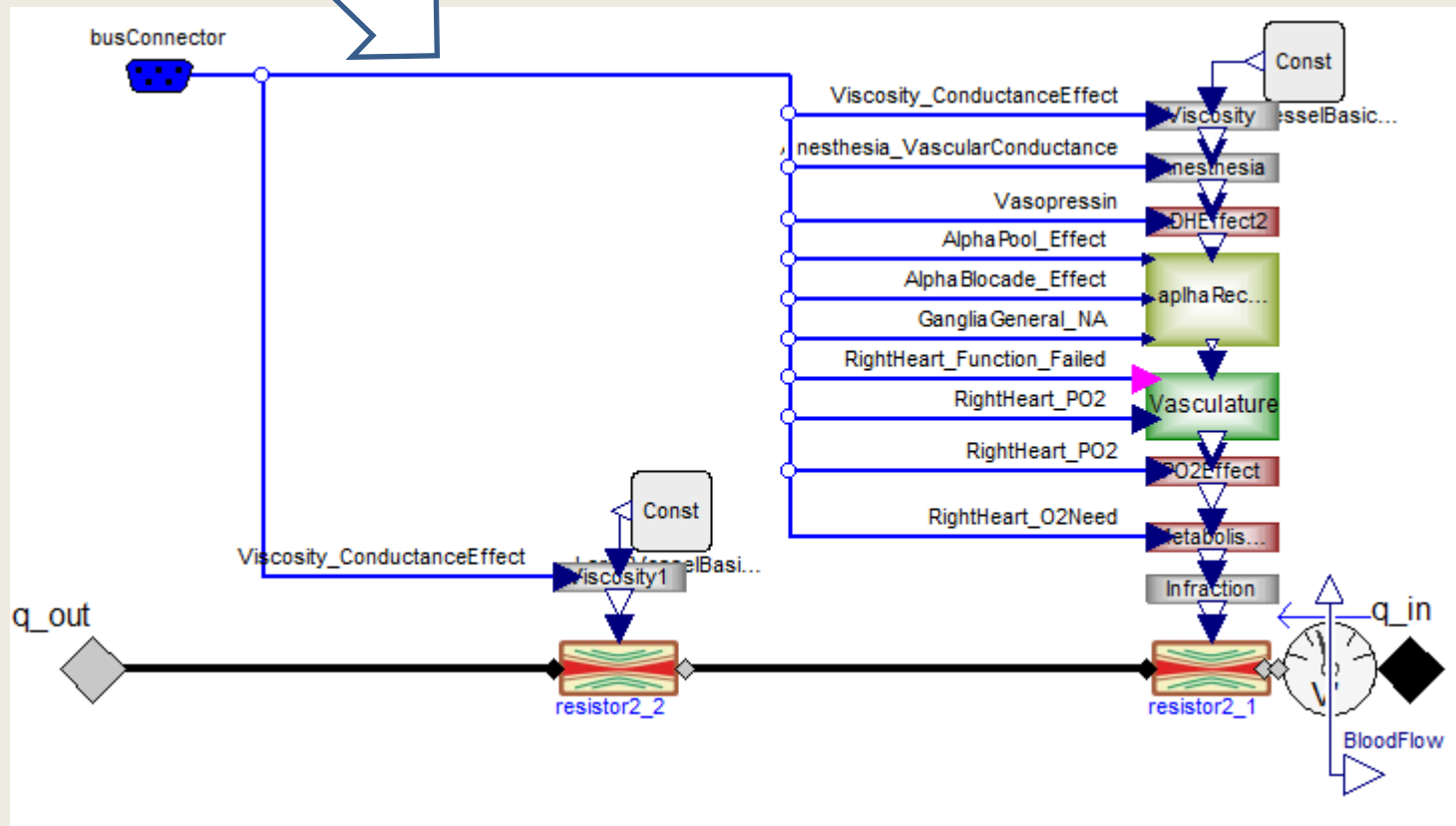


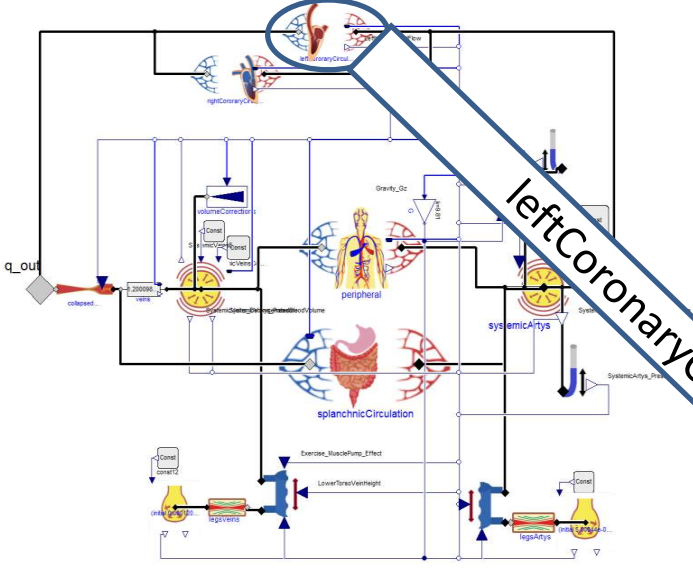
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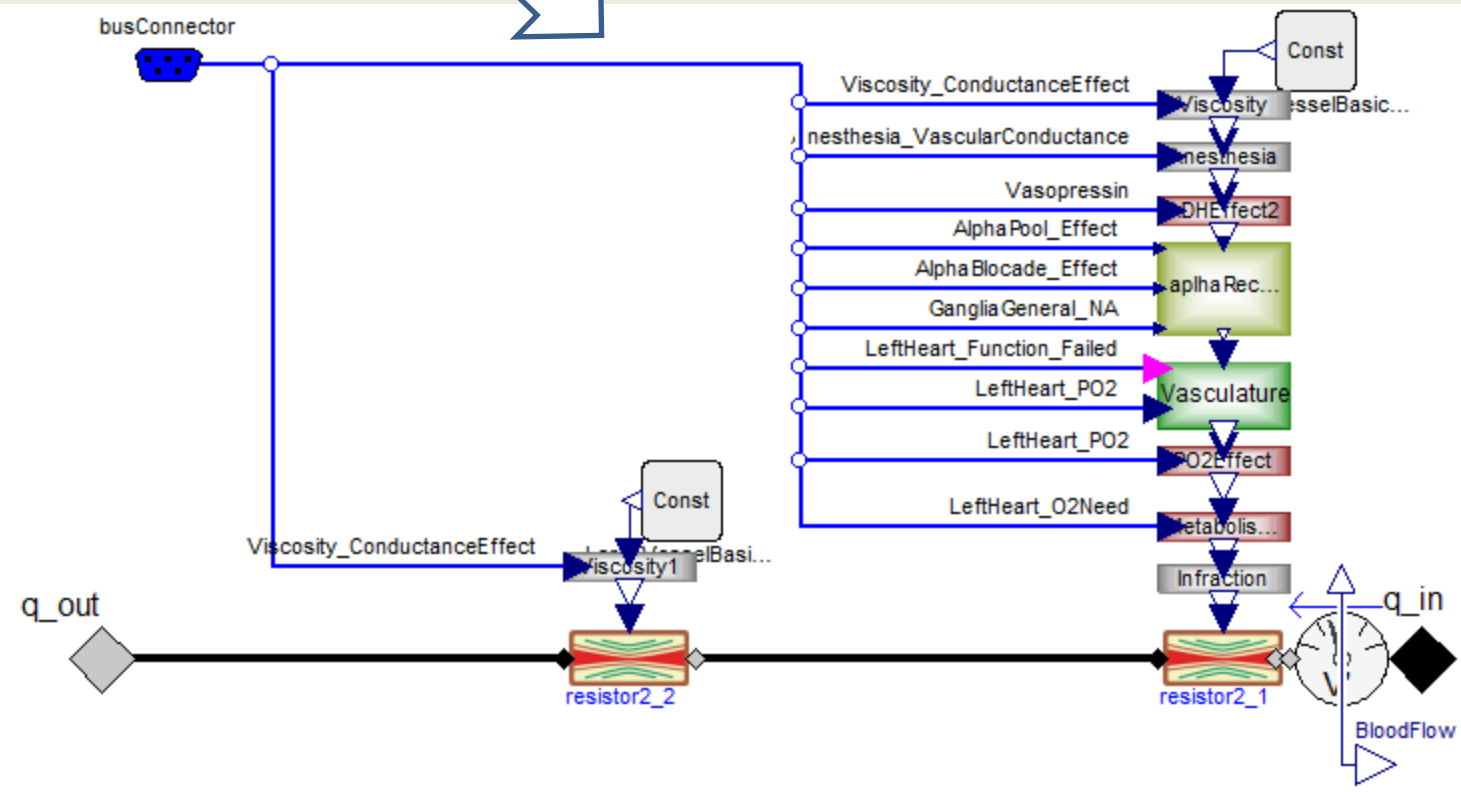


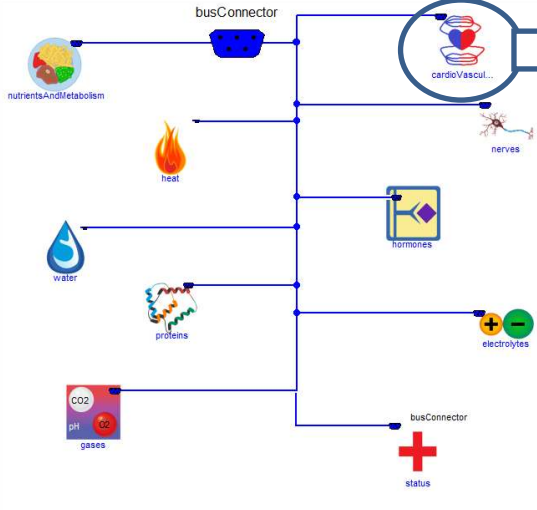
rightCoronaryCirculation



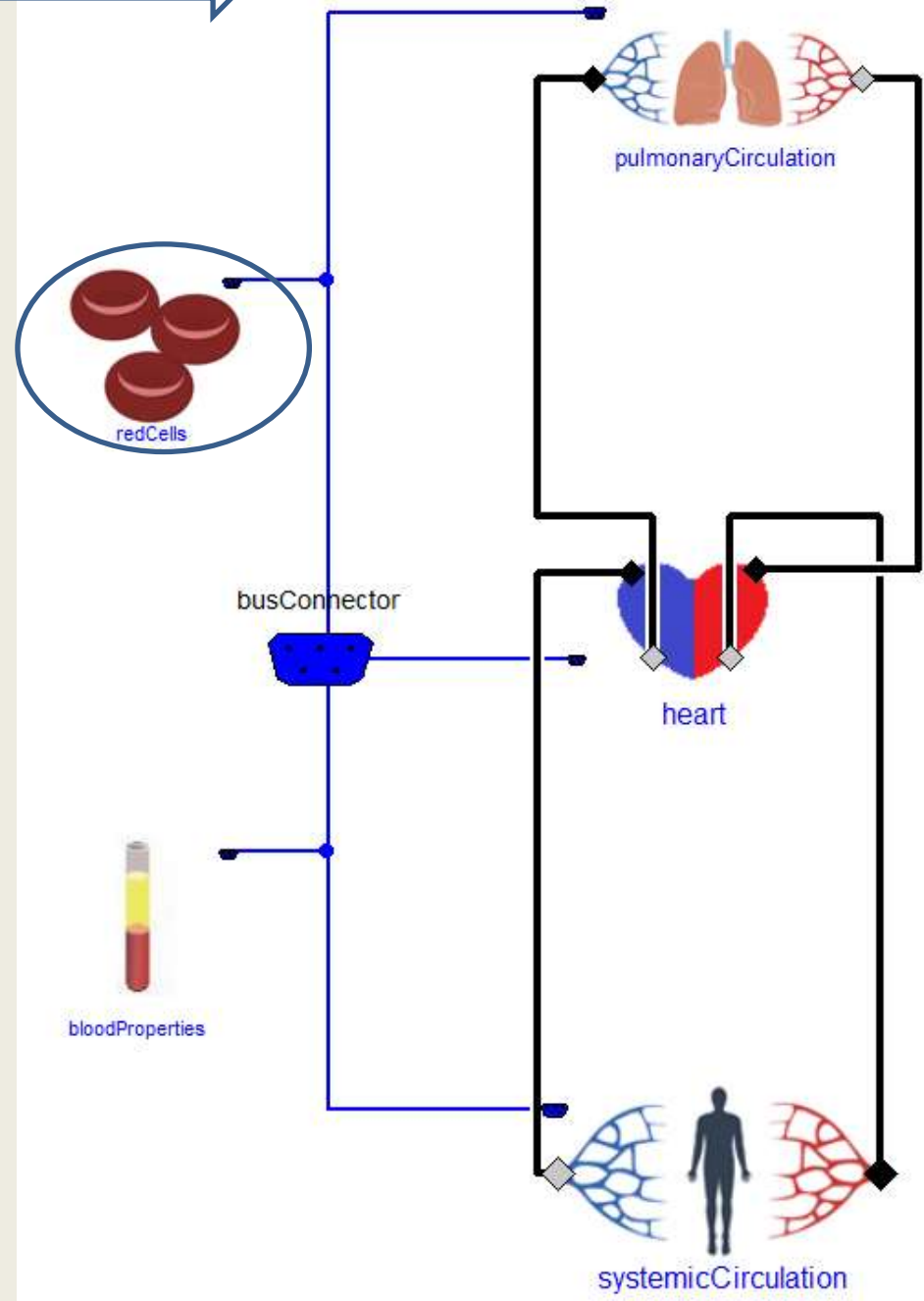


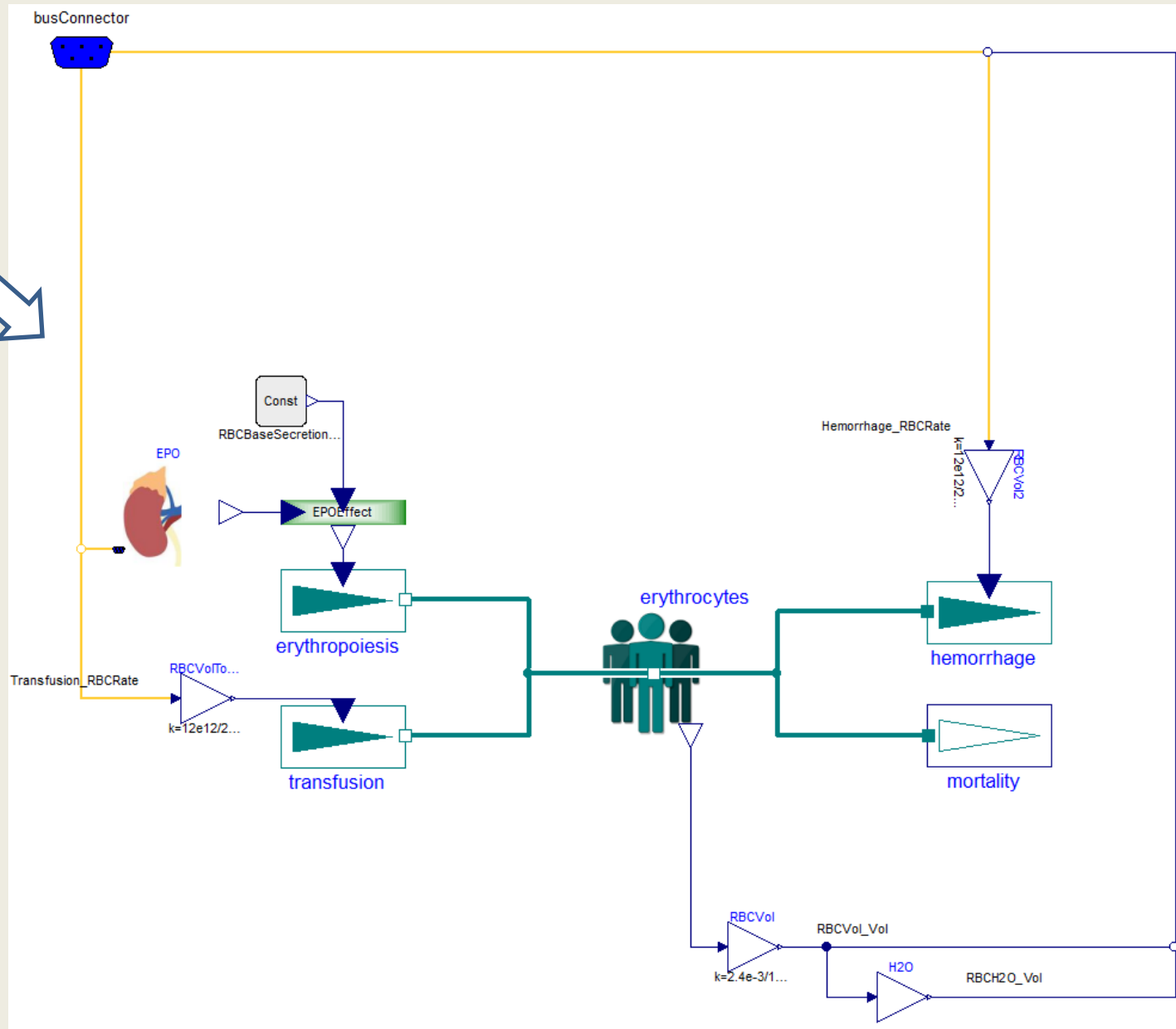
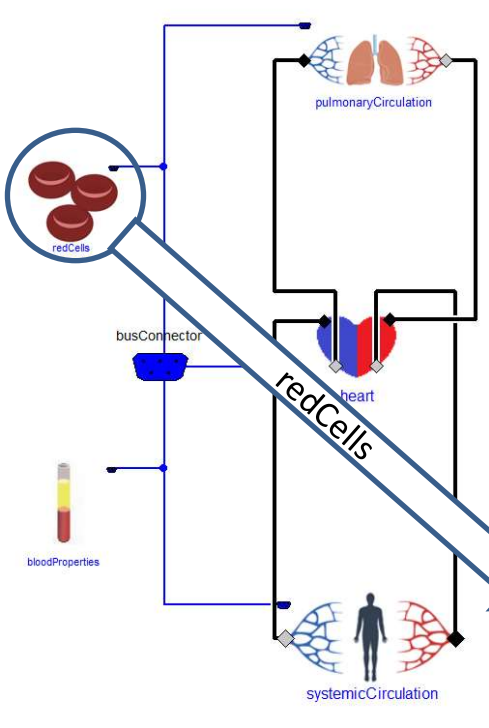
leftCoronaryCirculation

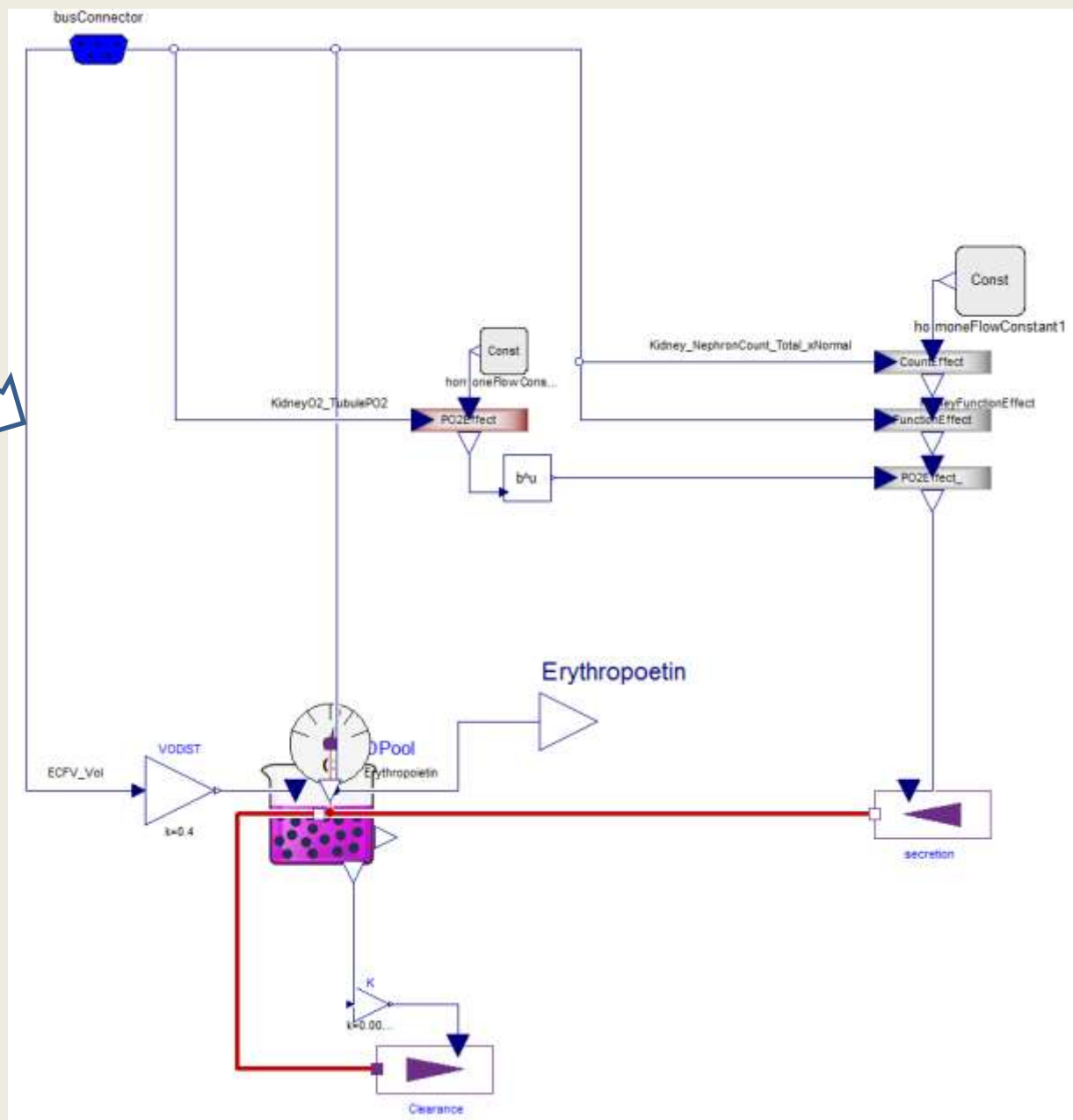
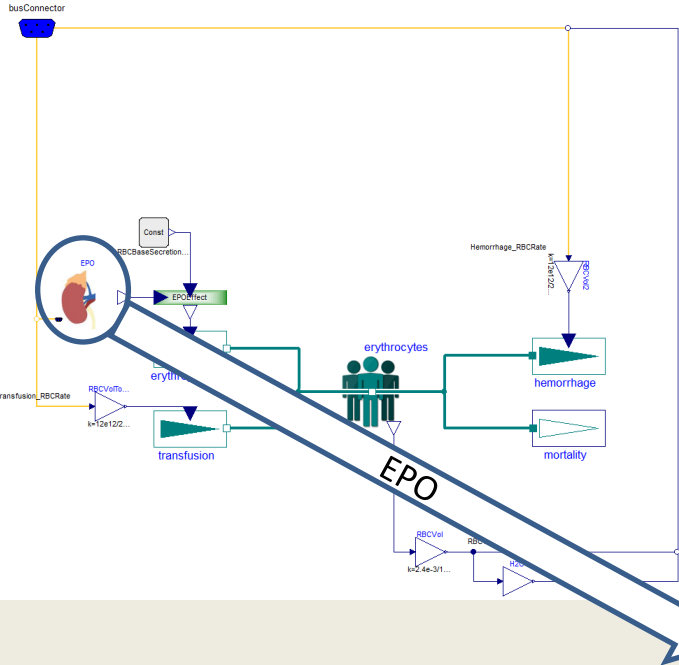




cardioVascularSystem

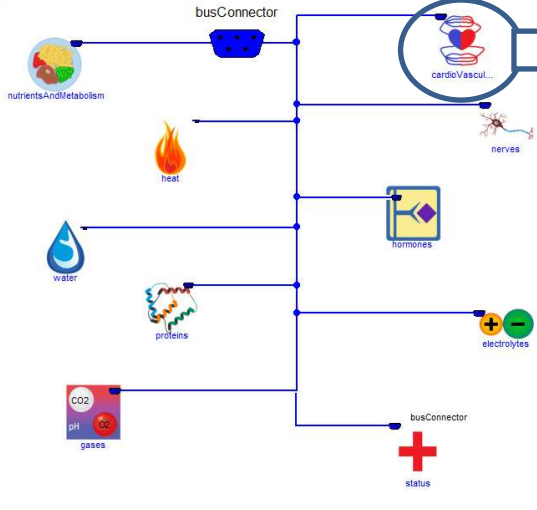




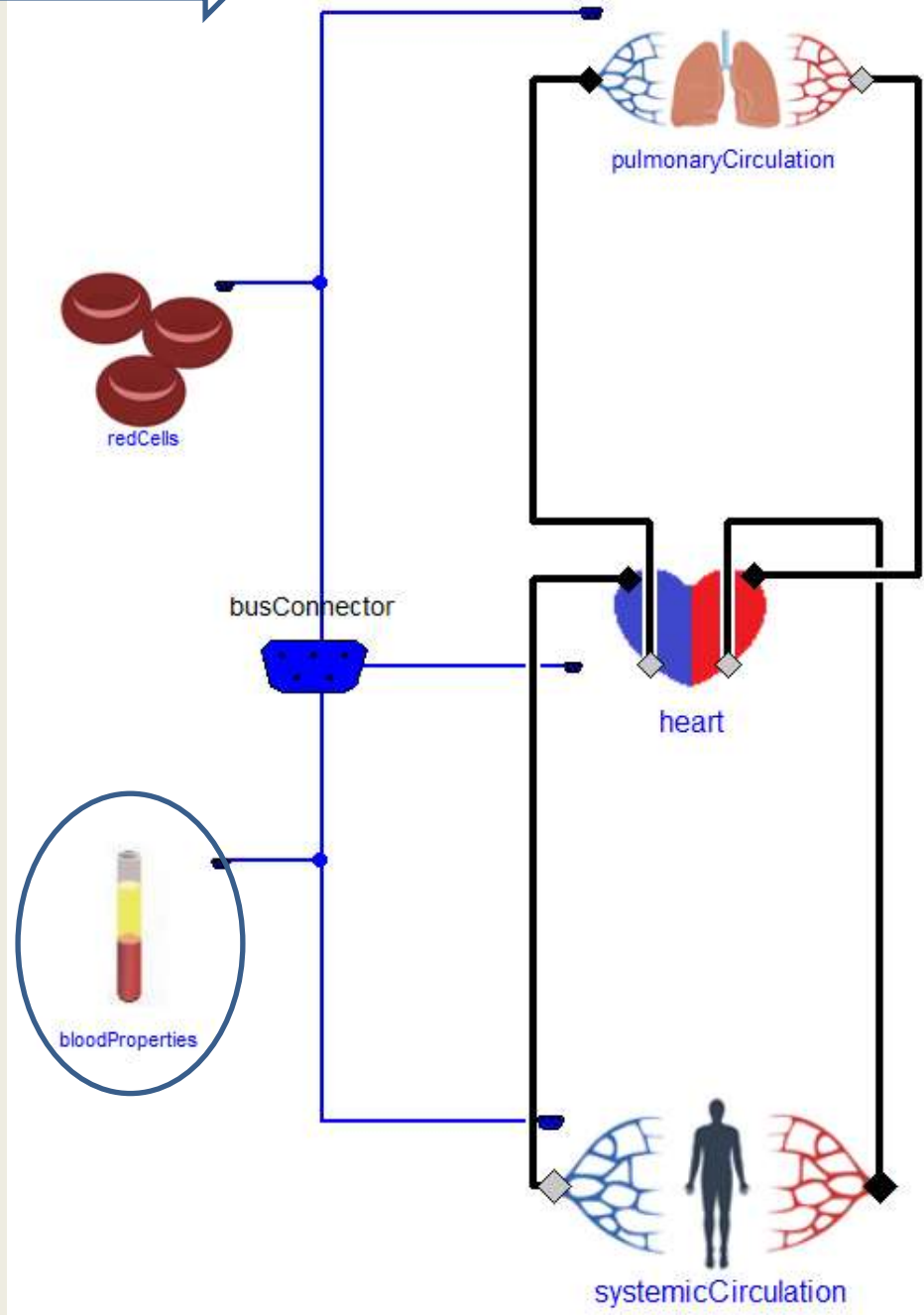


EPO

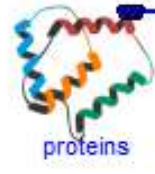
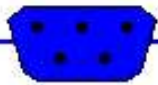
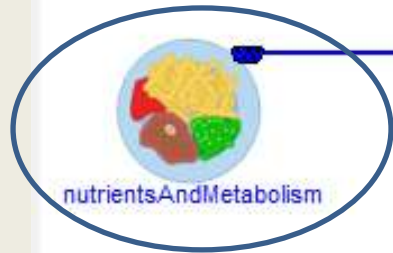
Erythropoietin



cardioVasculSystem



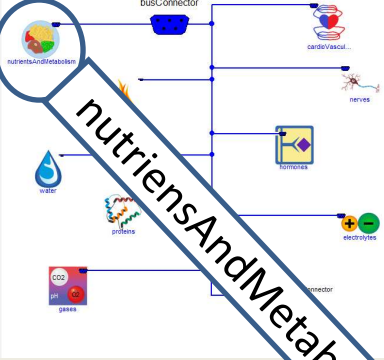
busConnector



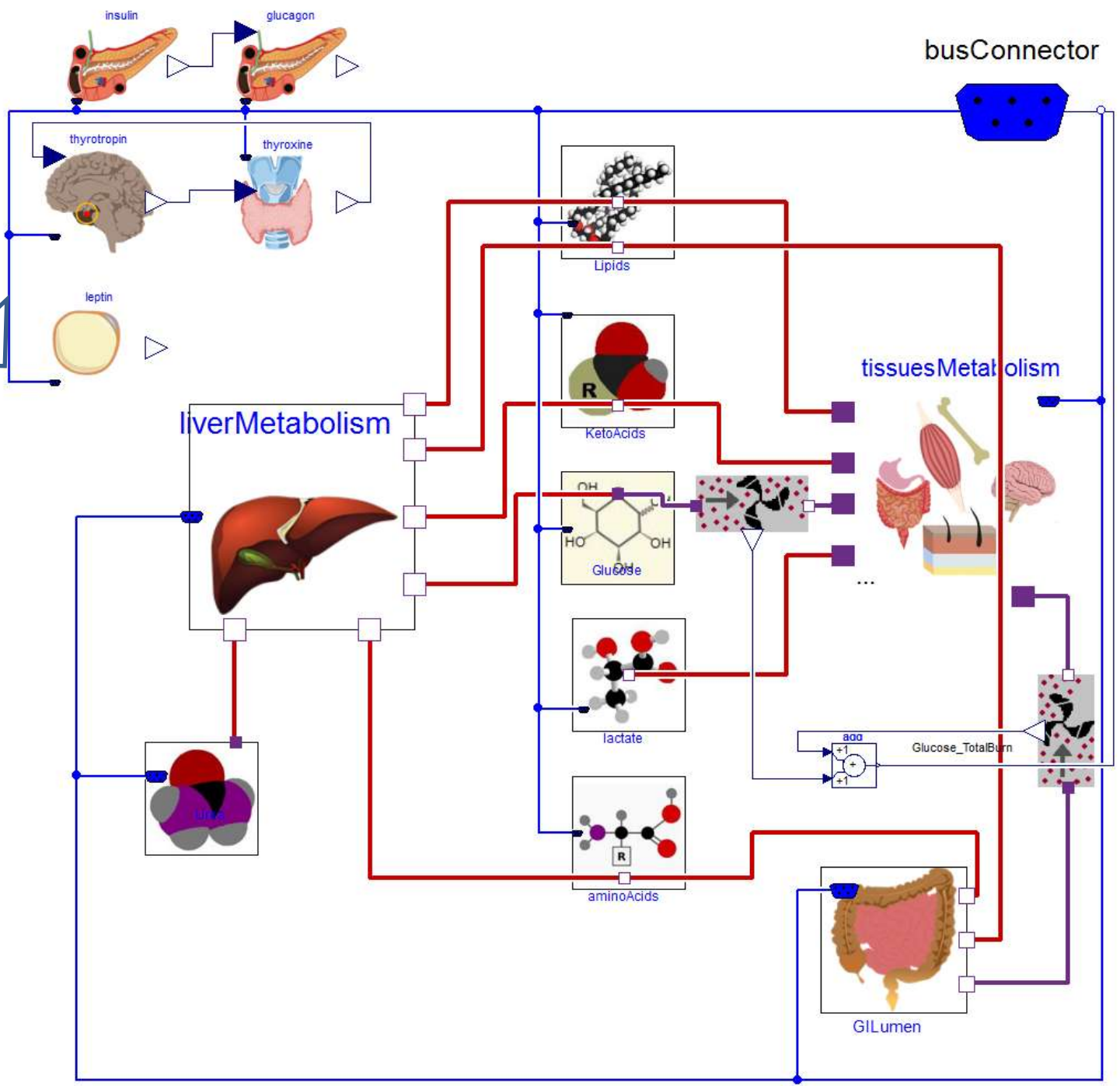
busConnector

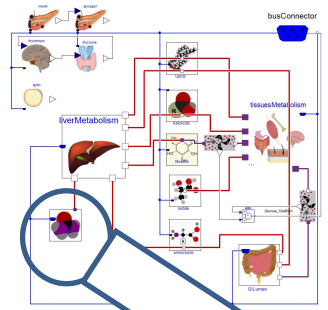


status



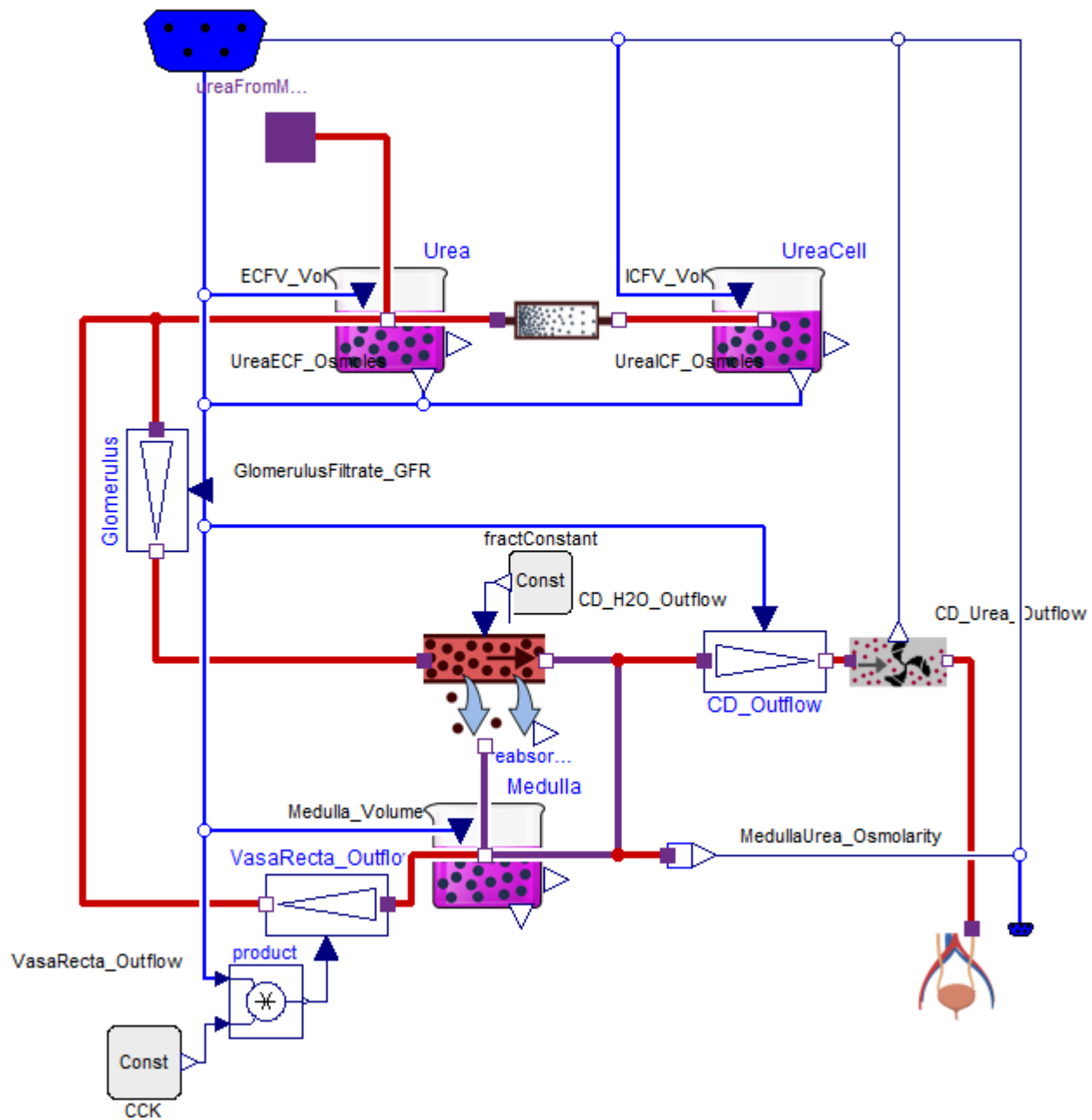
nutriensAndMetabolism

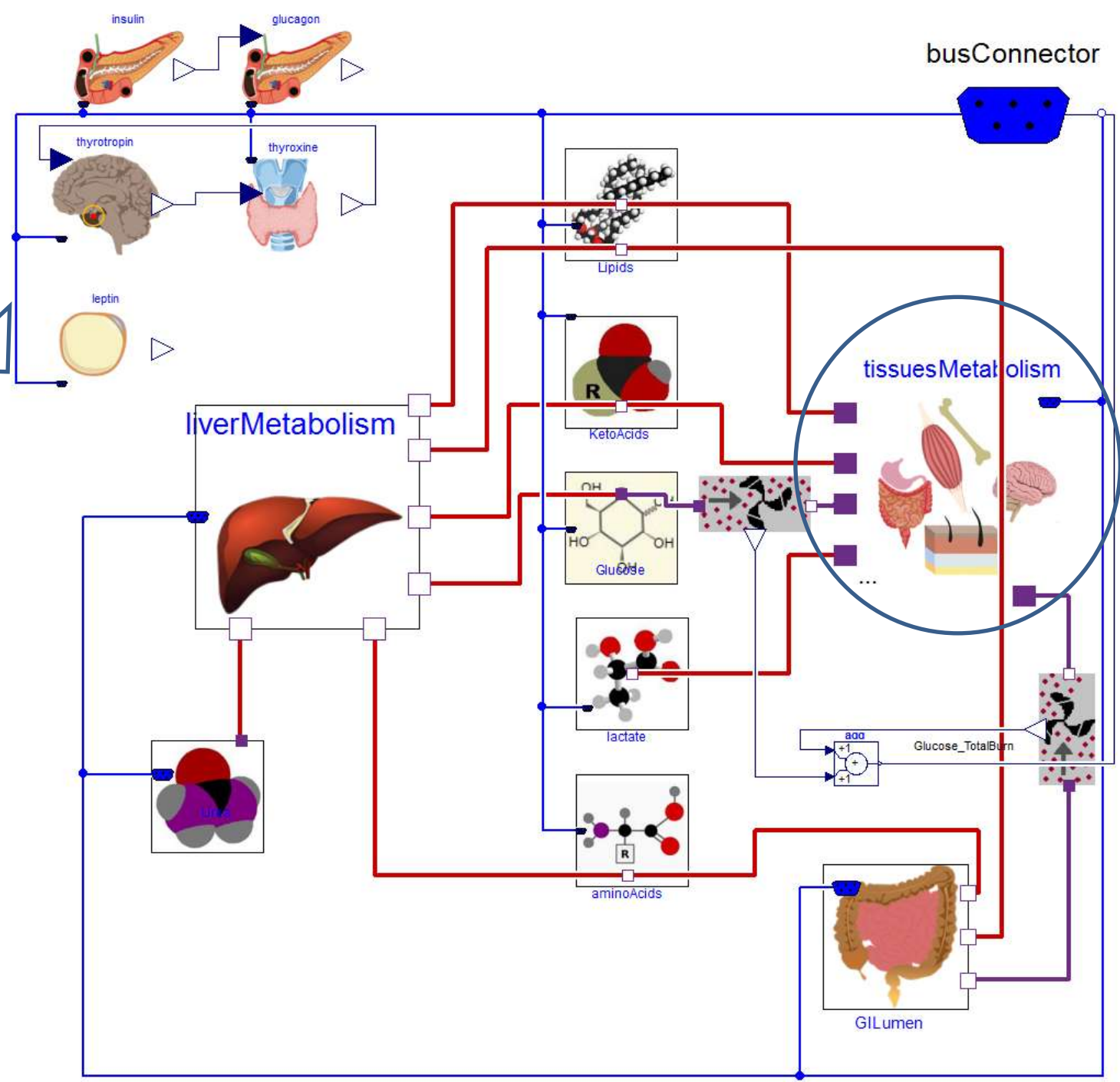
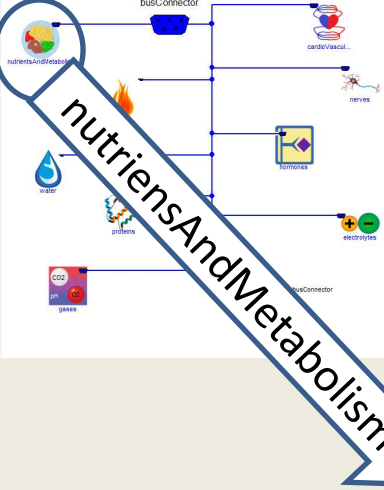


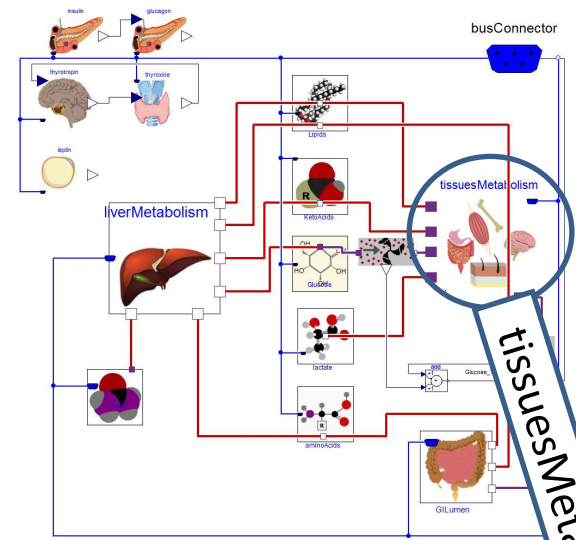


urea

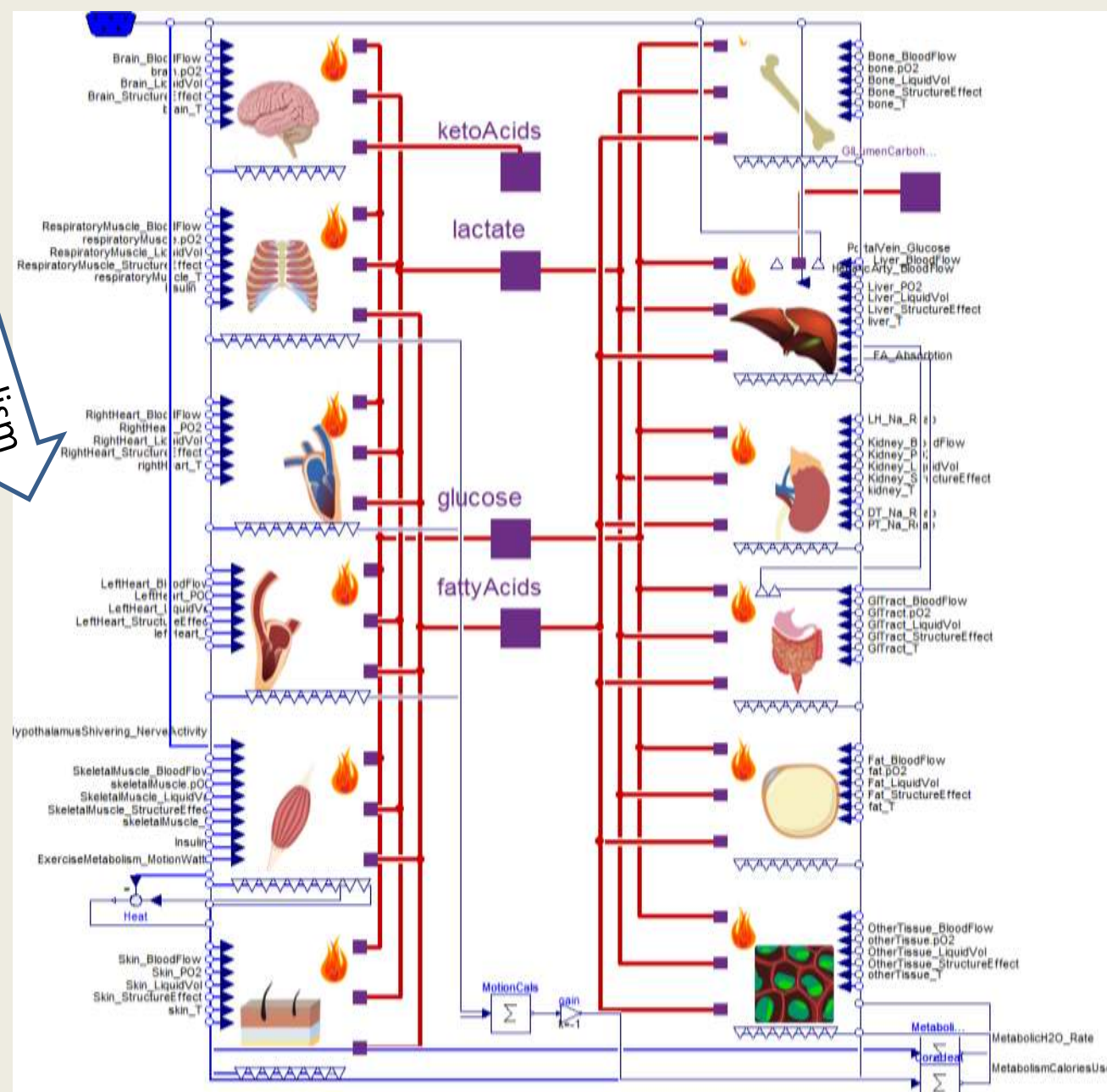
busConnector

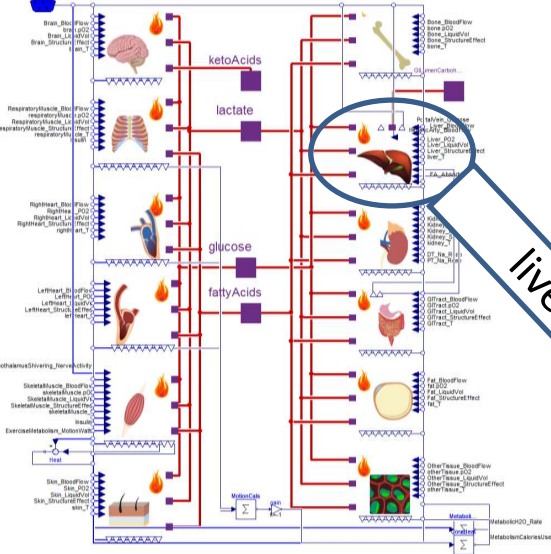




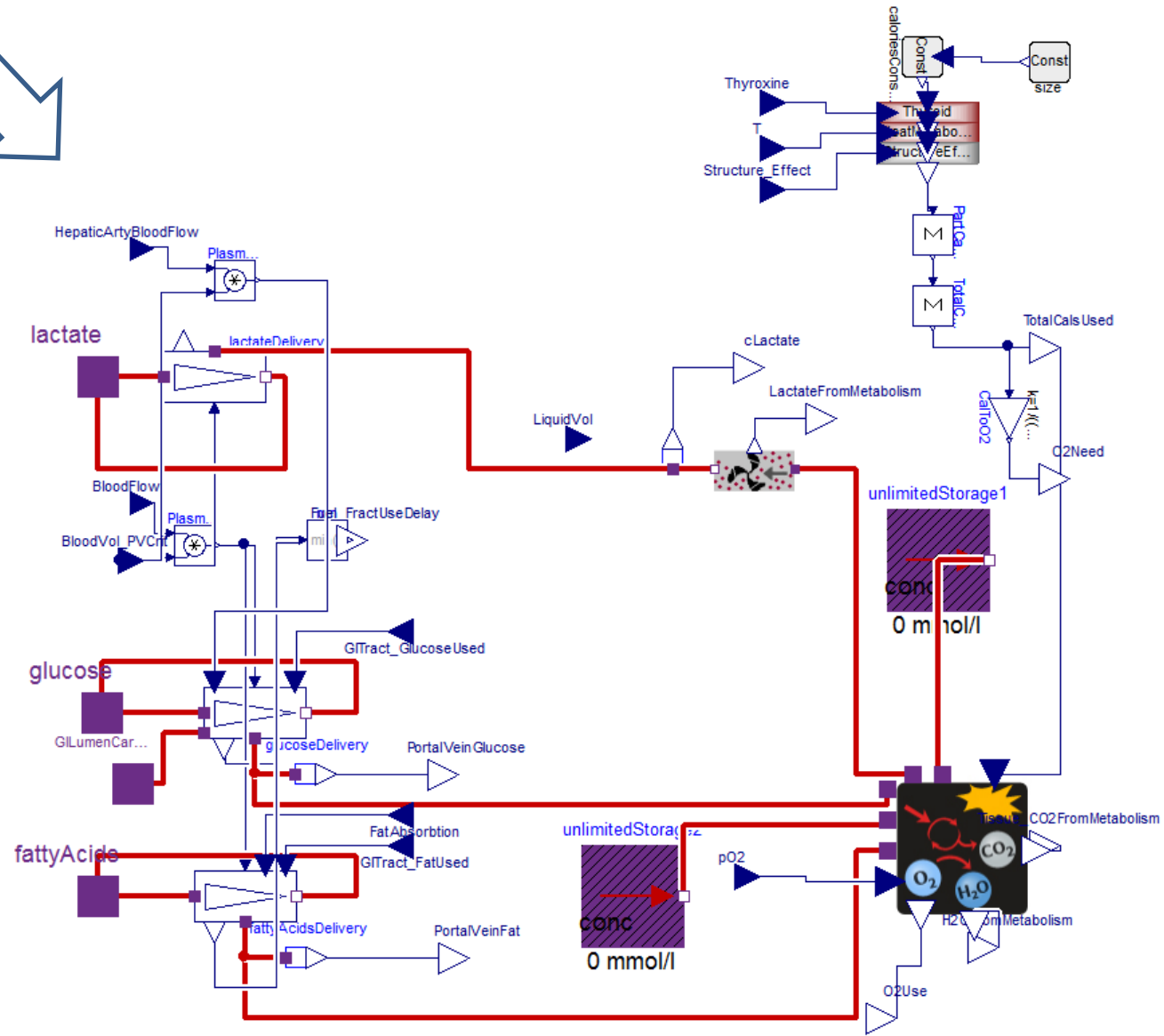


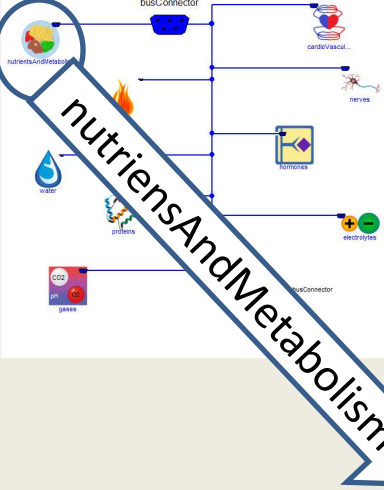
tissuesMetabolism



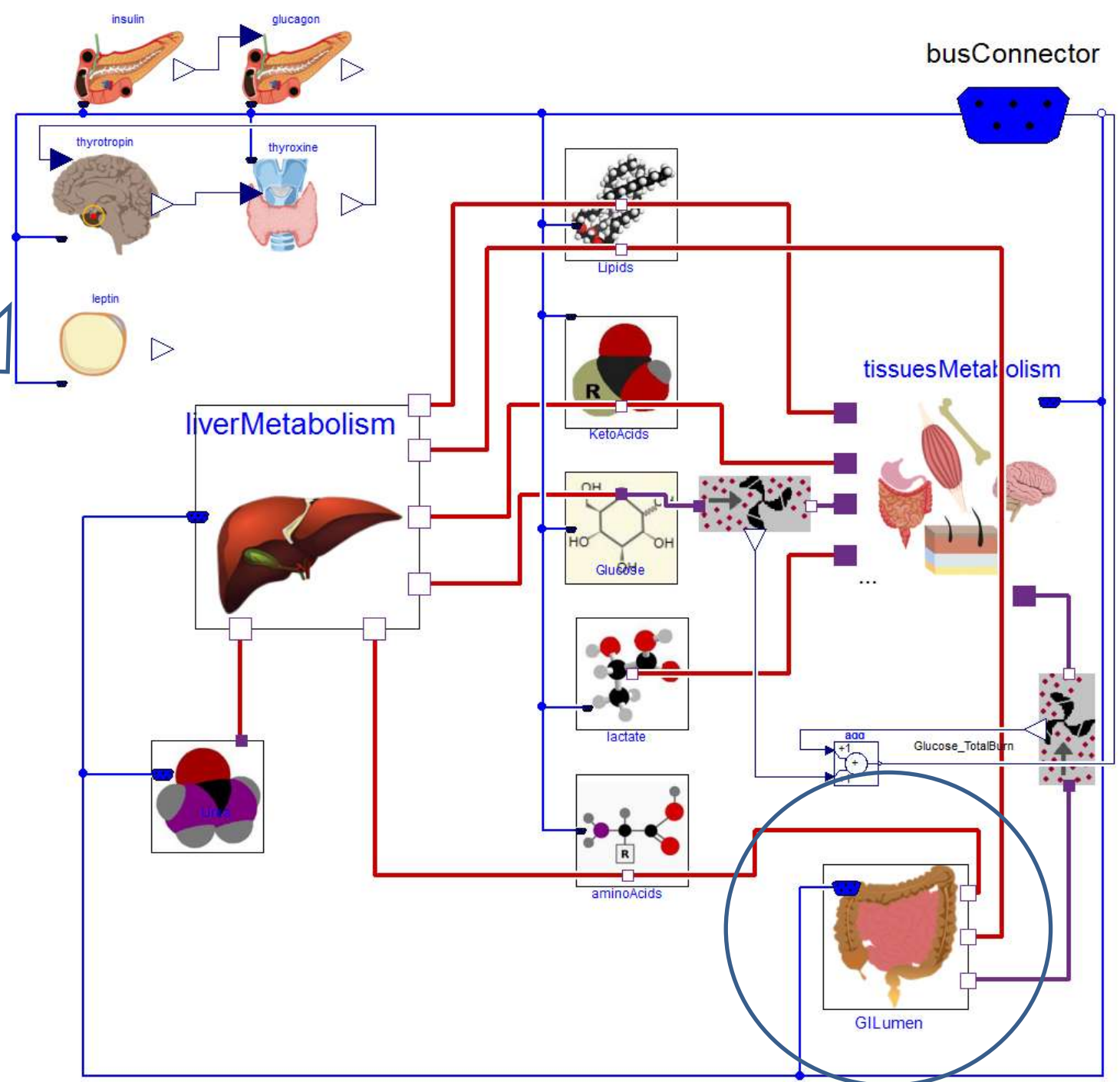


For brain, respiratoryMuscle, rightHeart, leftHeart, skeletalMuscle, skin, bone, liver, kidney, GItract, fat and otherTissue: the instances of the same class with different parameters





nutrientsAndMetabolism



busConnector

LiverMetabolism

tissuesMetabolism

GI Lumen

Glucose_TotaBurn

Lipids

KetoAcids

Glucose

lactate

aminoAcids

thyrotropin

thyroxine

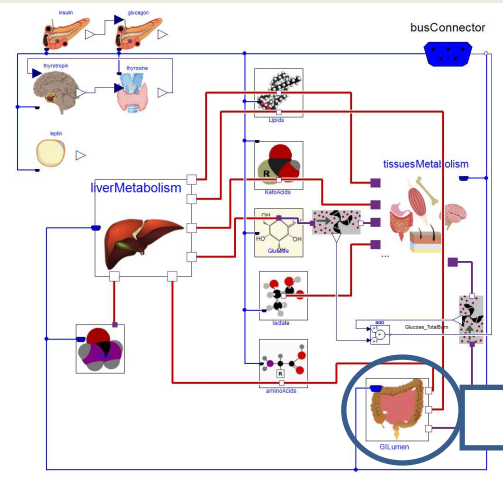
leptin

insulin

glucagon

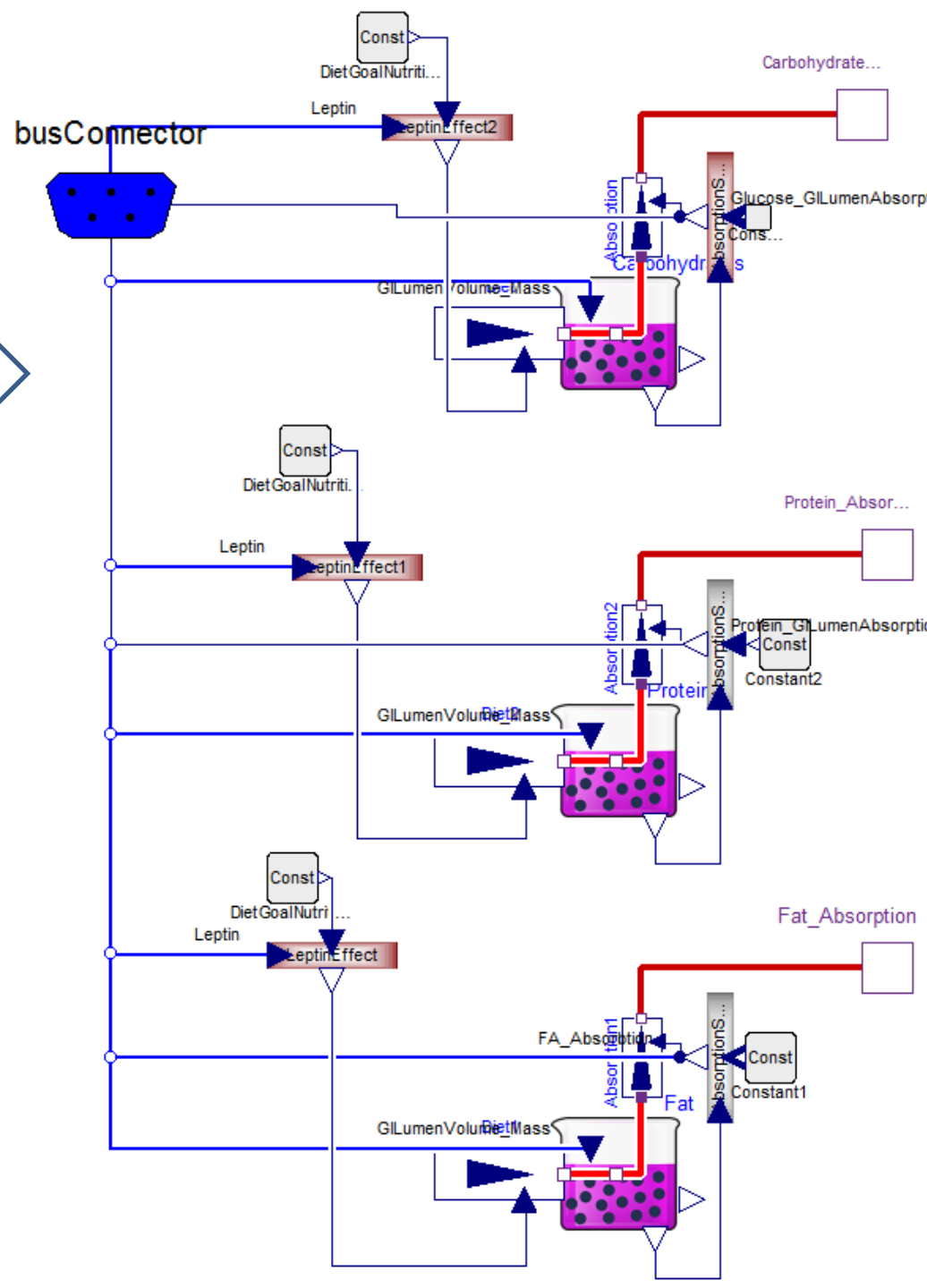
add

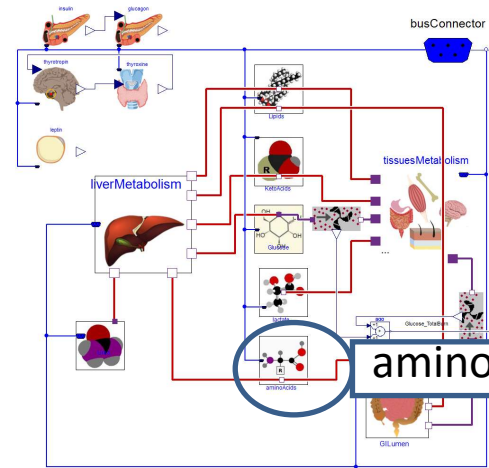
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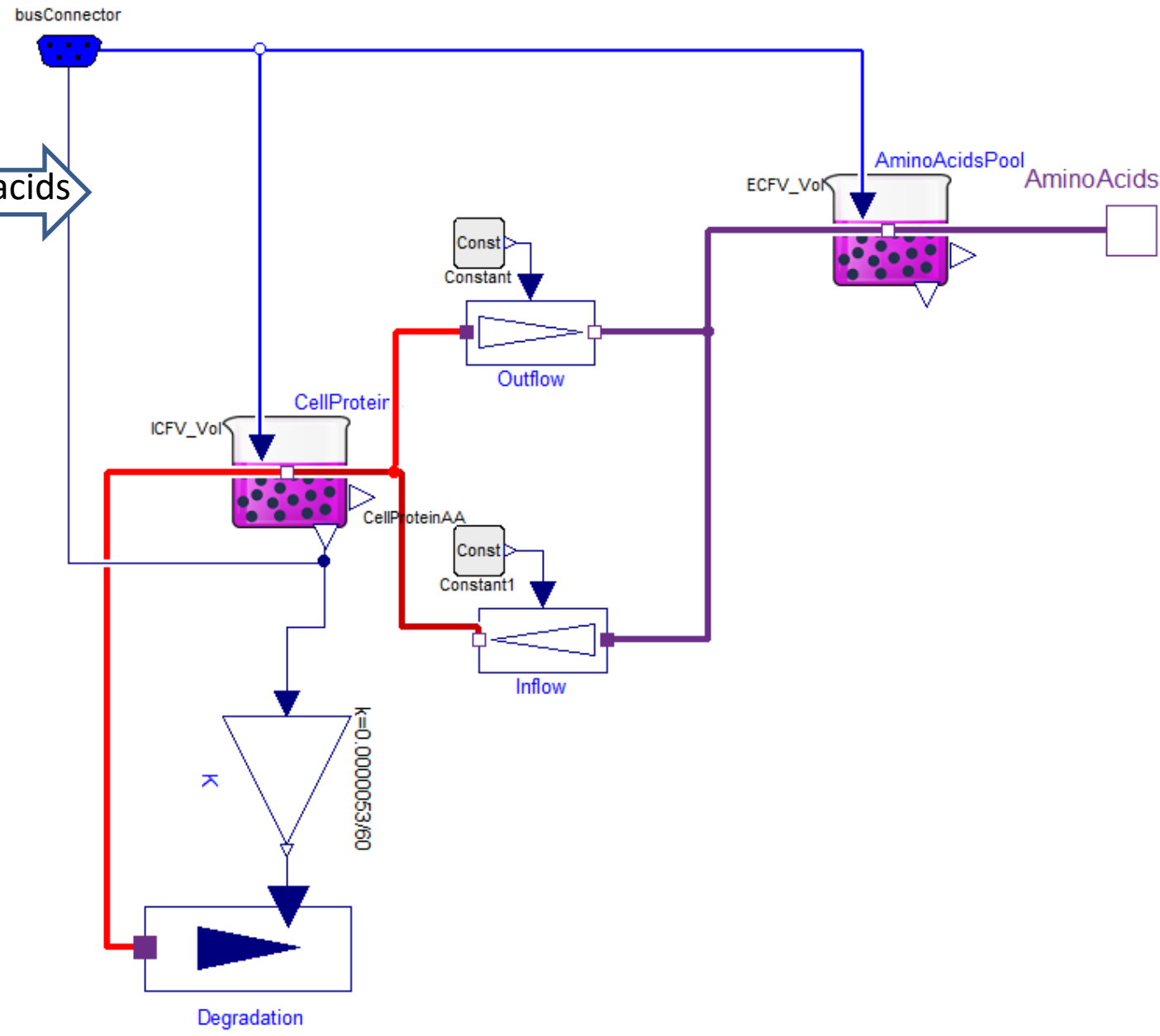
GILumen

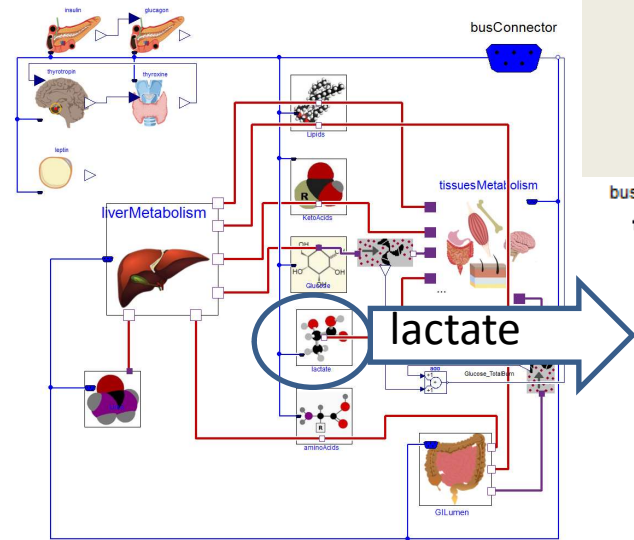
busConnector





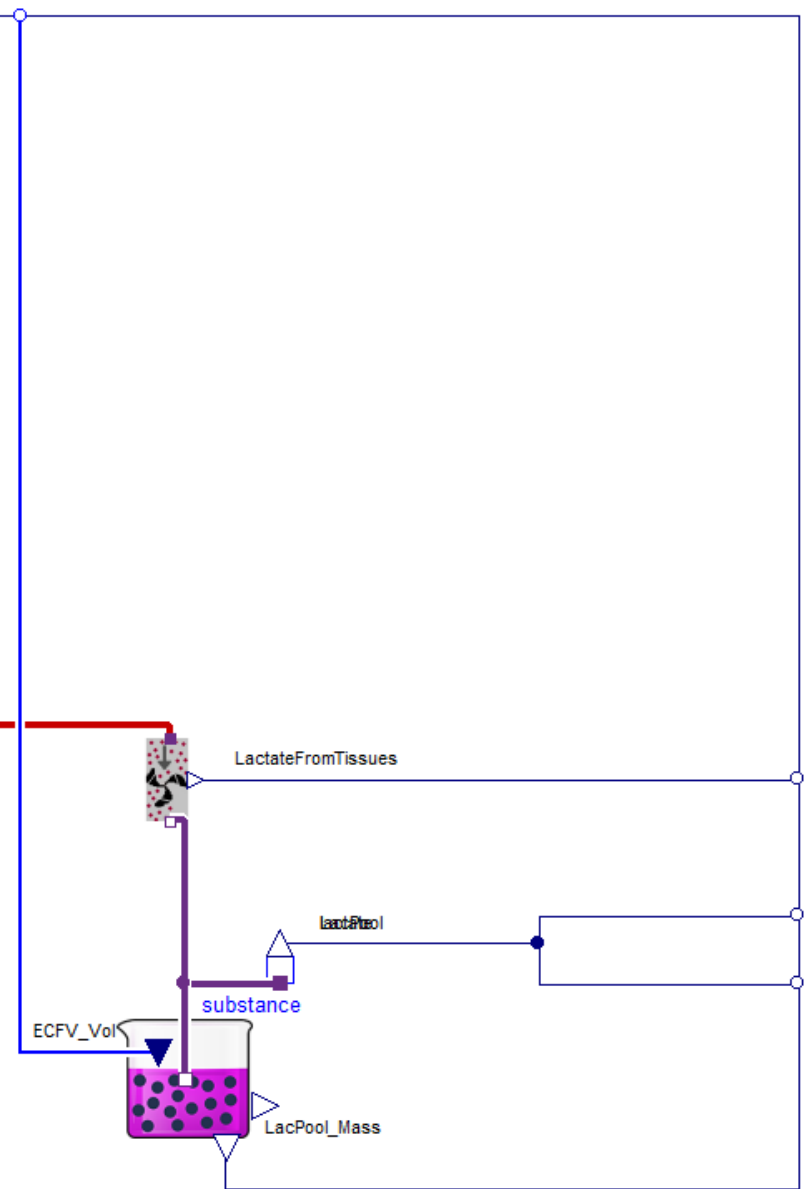
amino acids

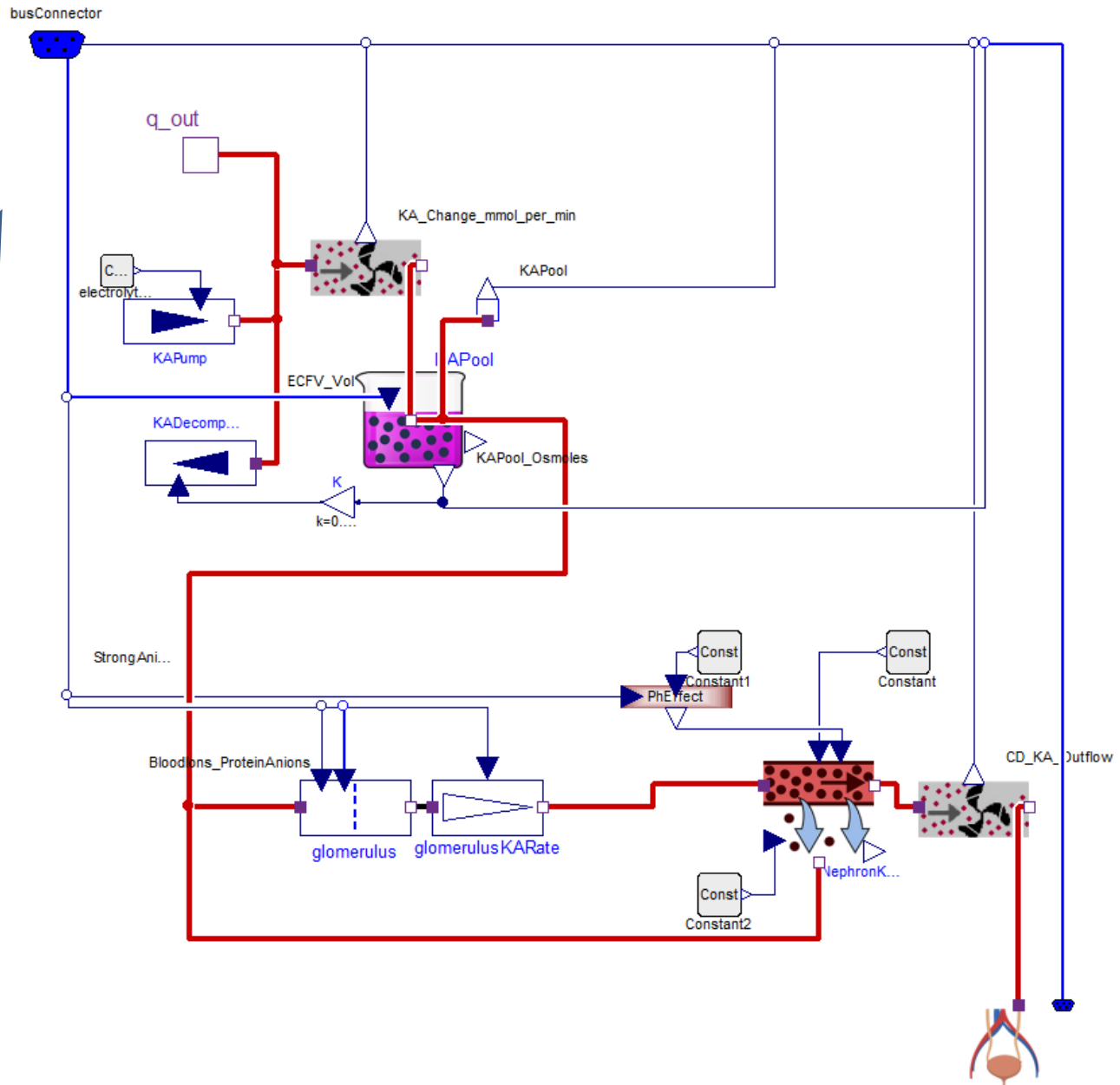
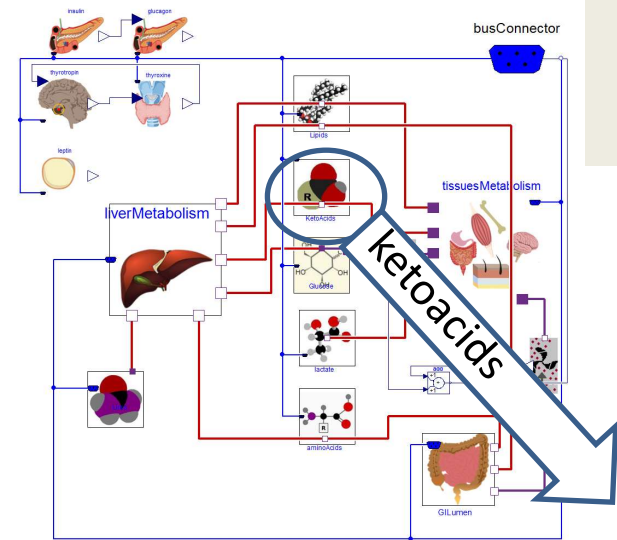


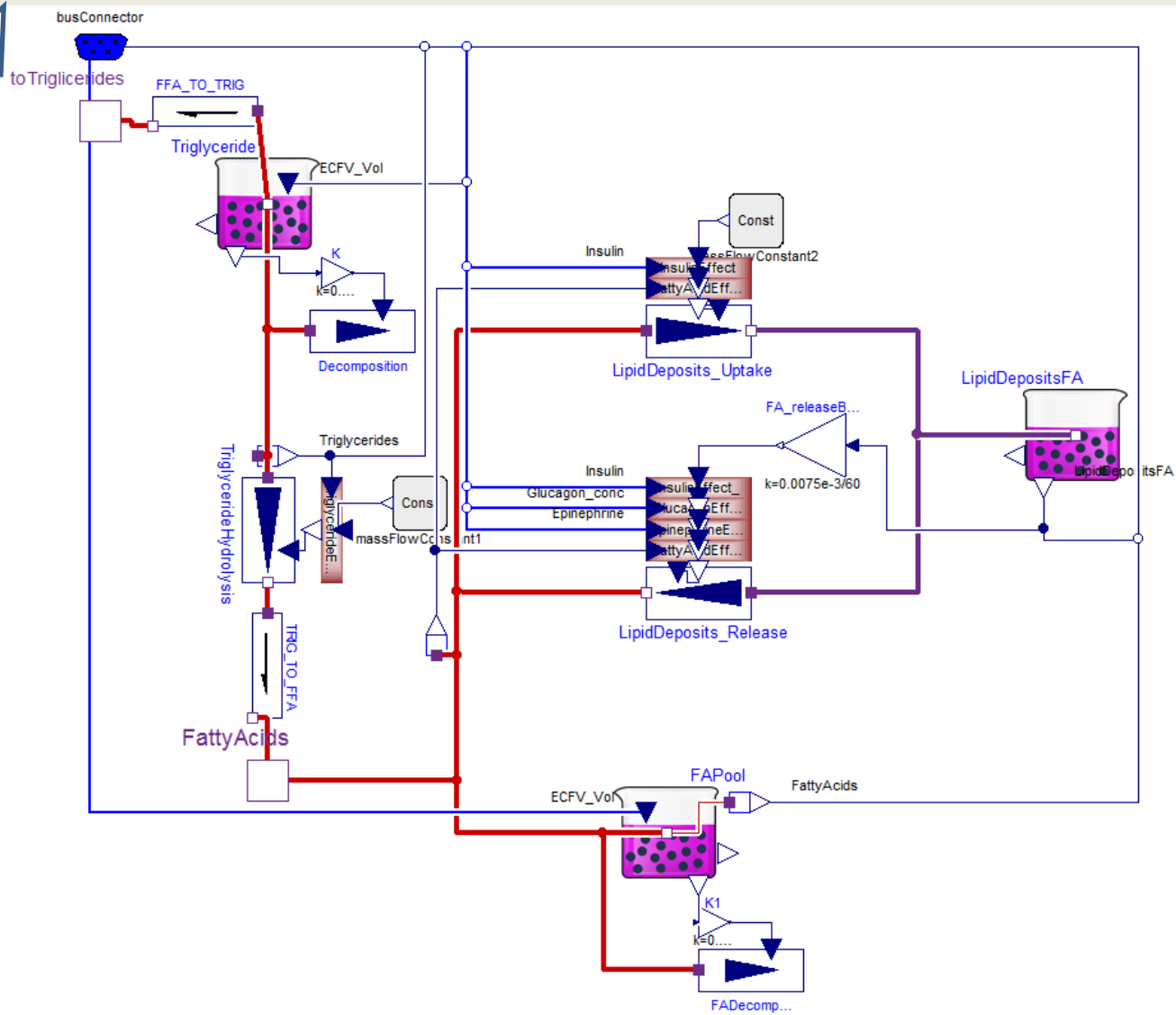
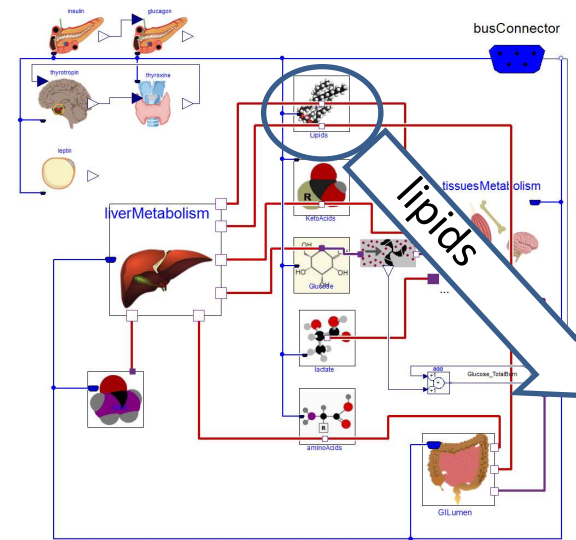


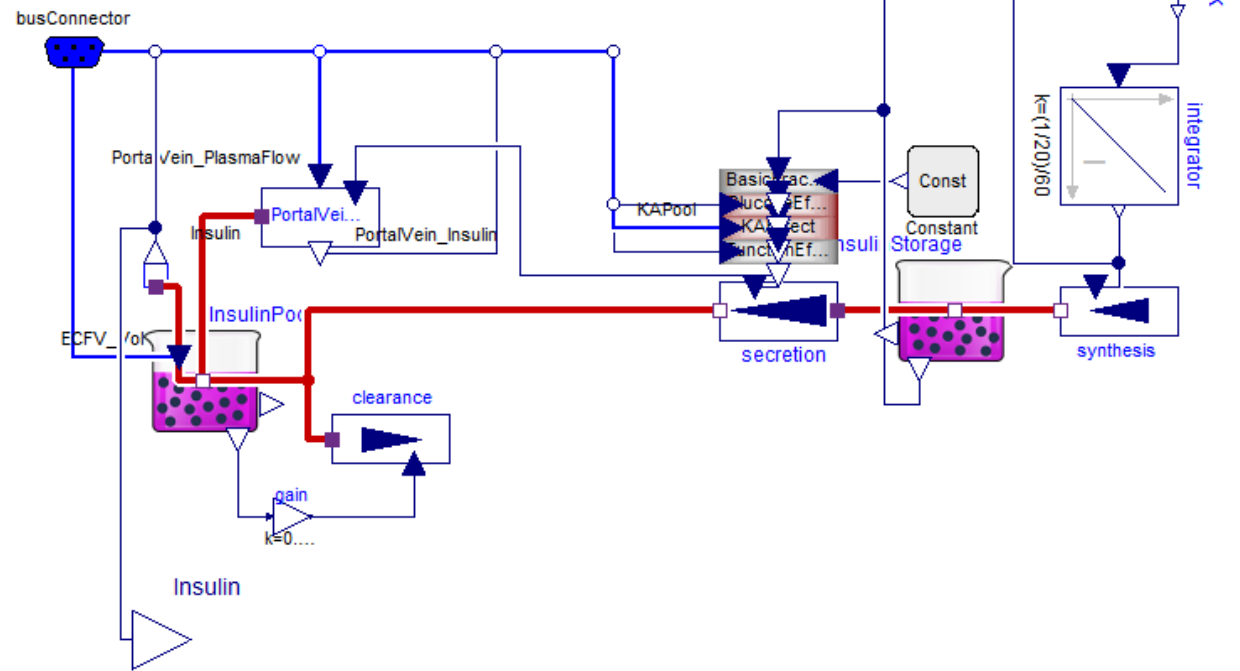
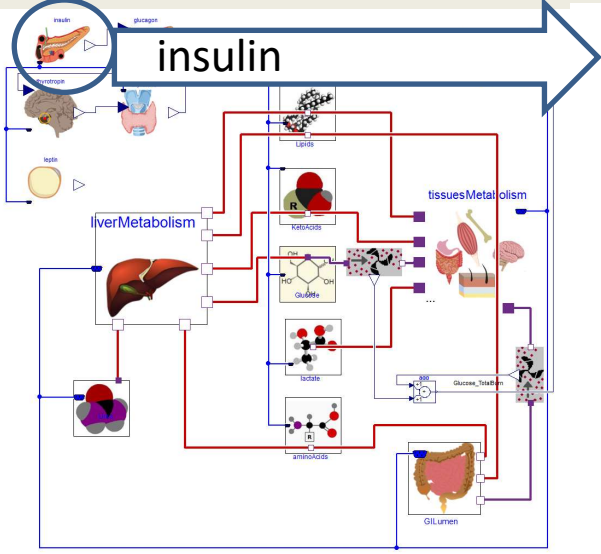
busConnector

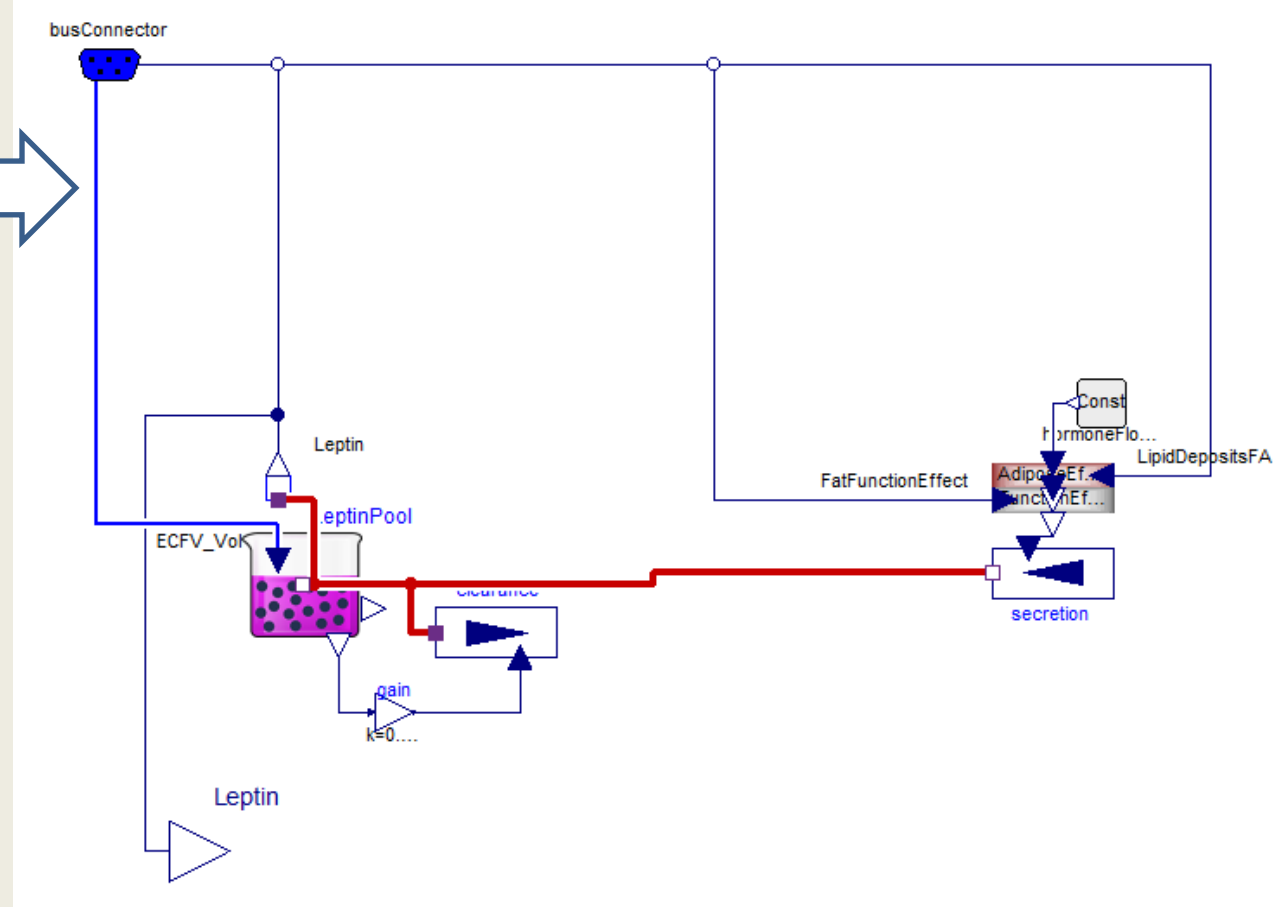
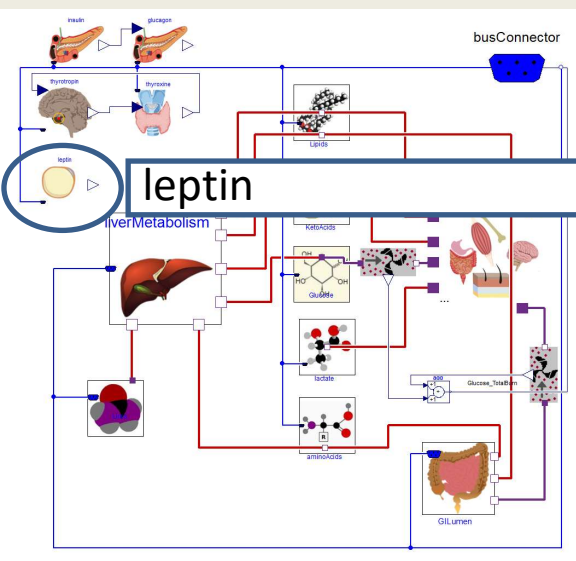
Lactate

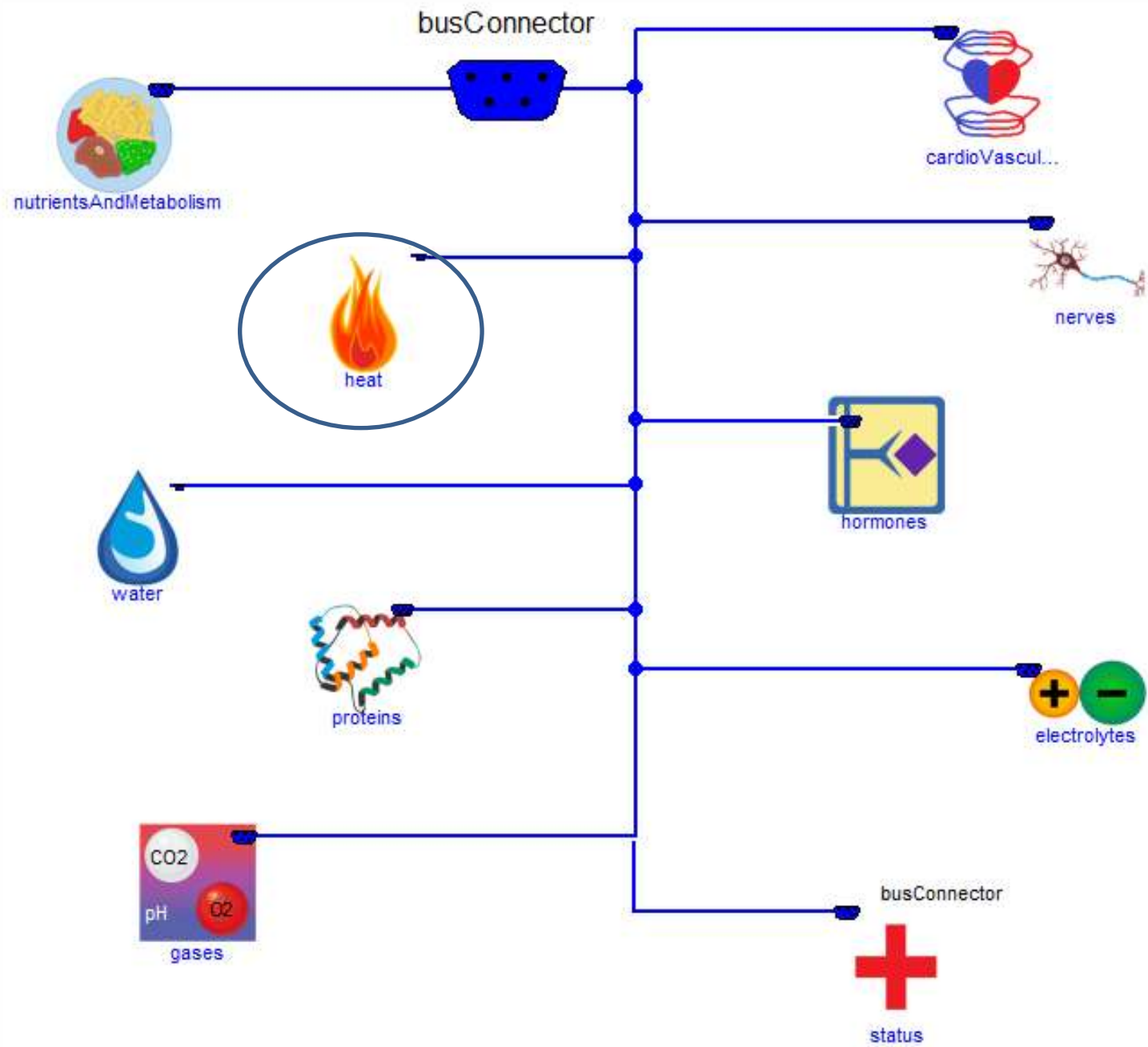


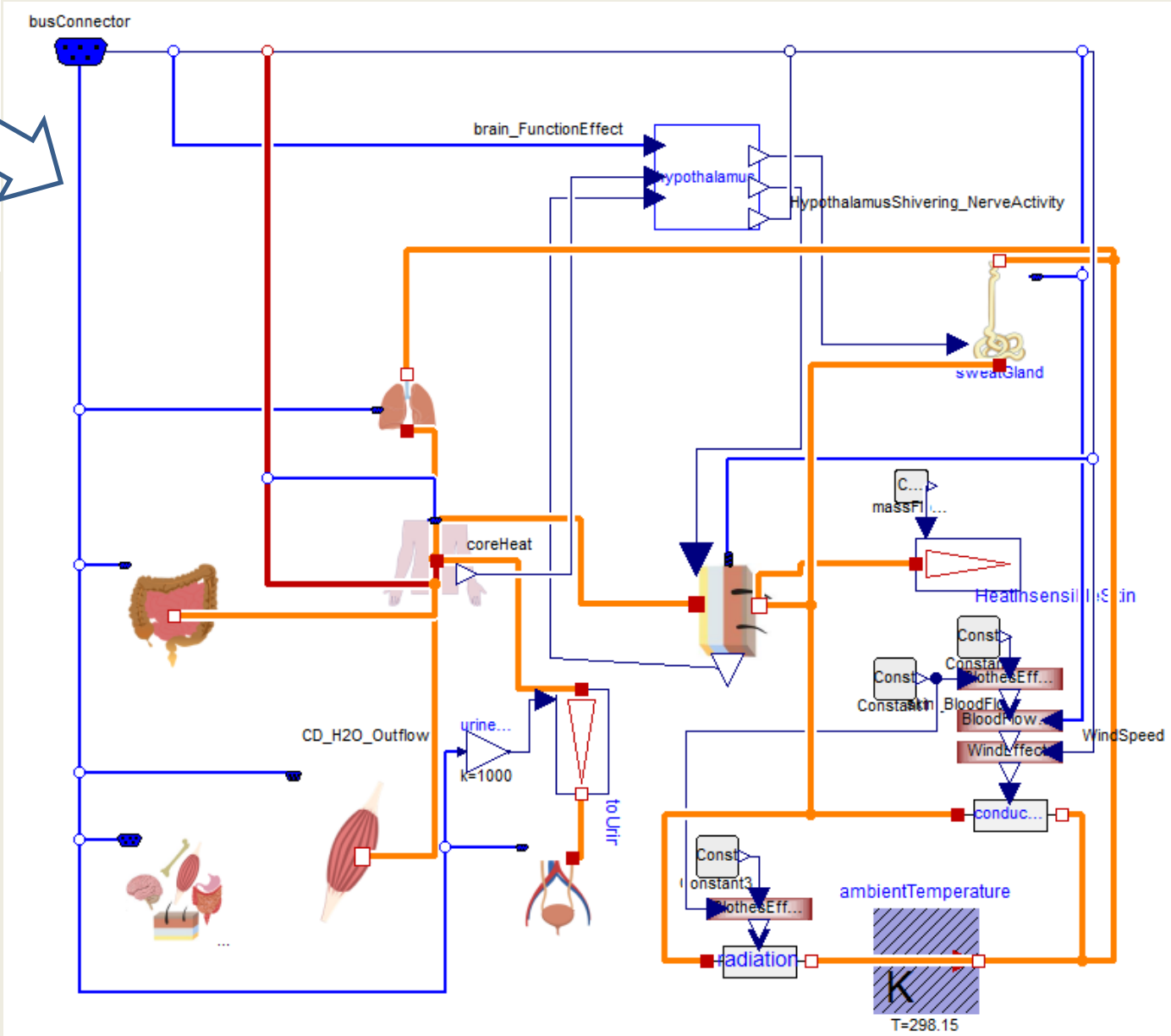
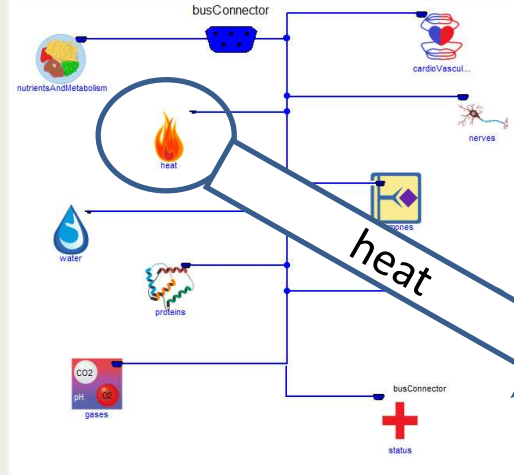


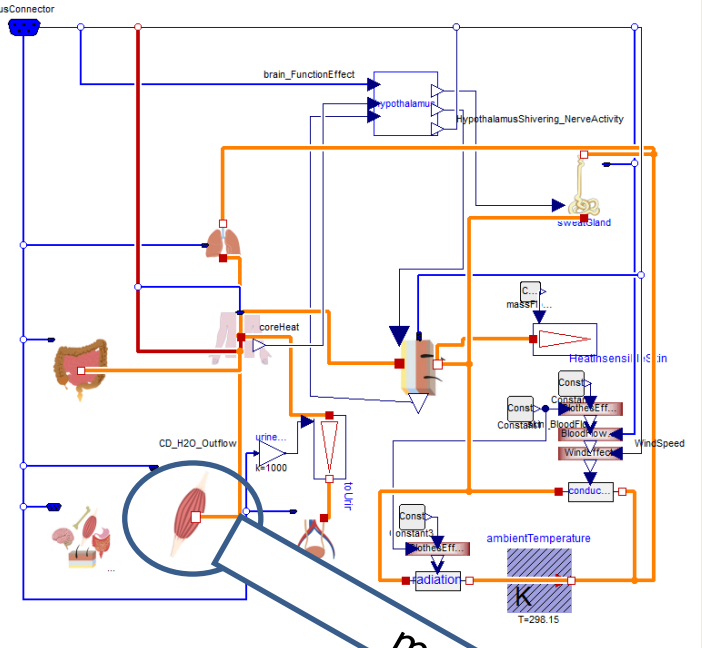




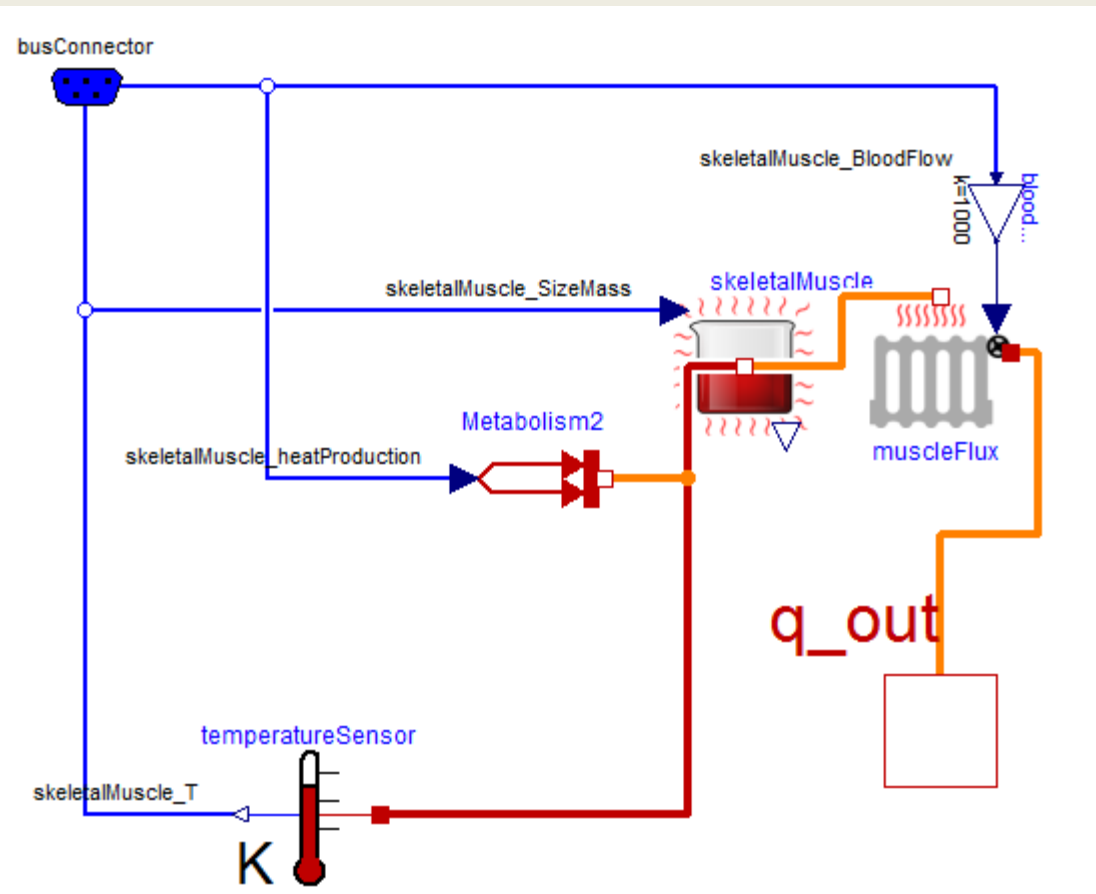


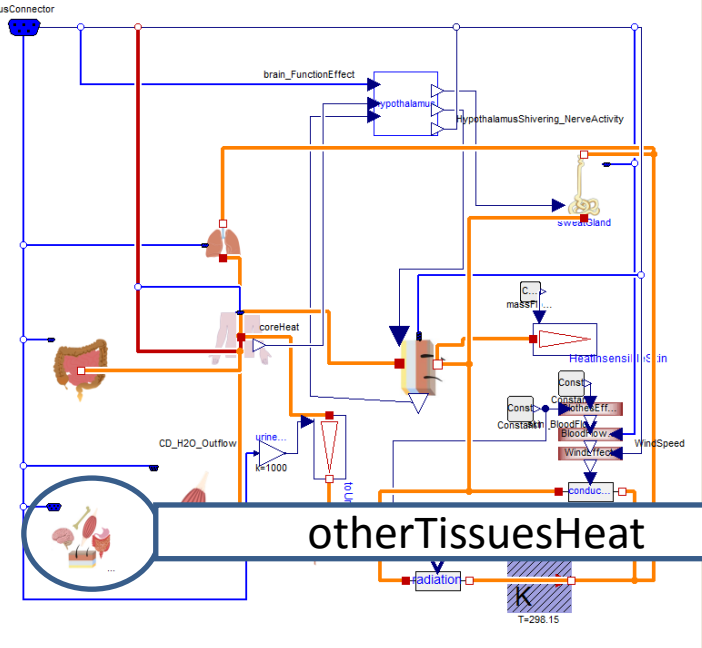




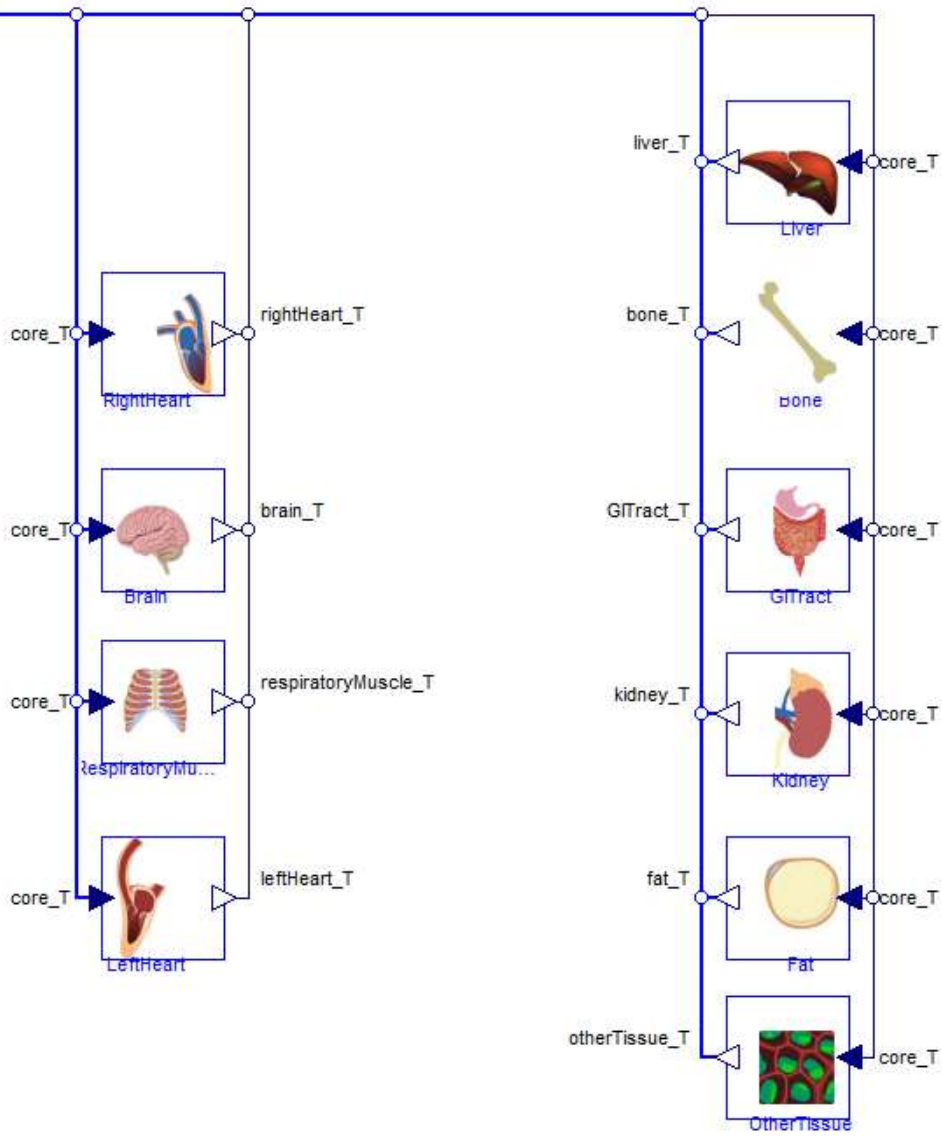
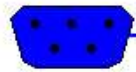


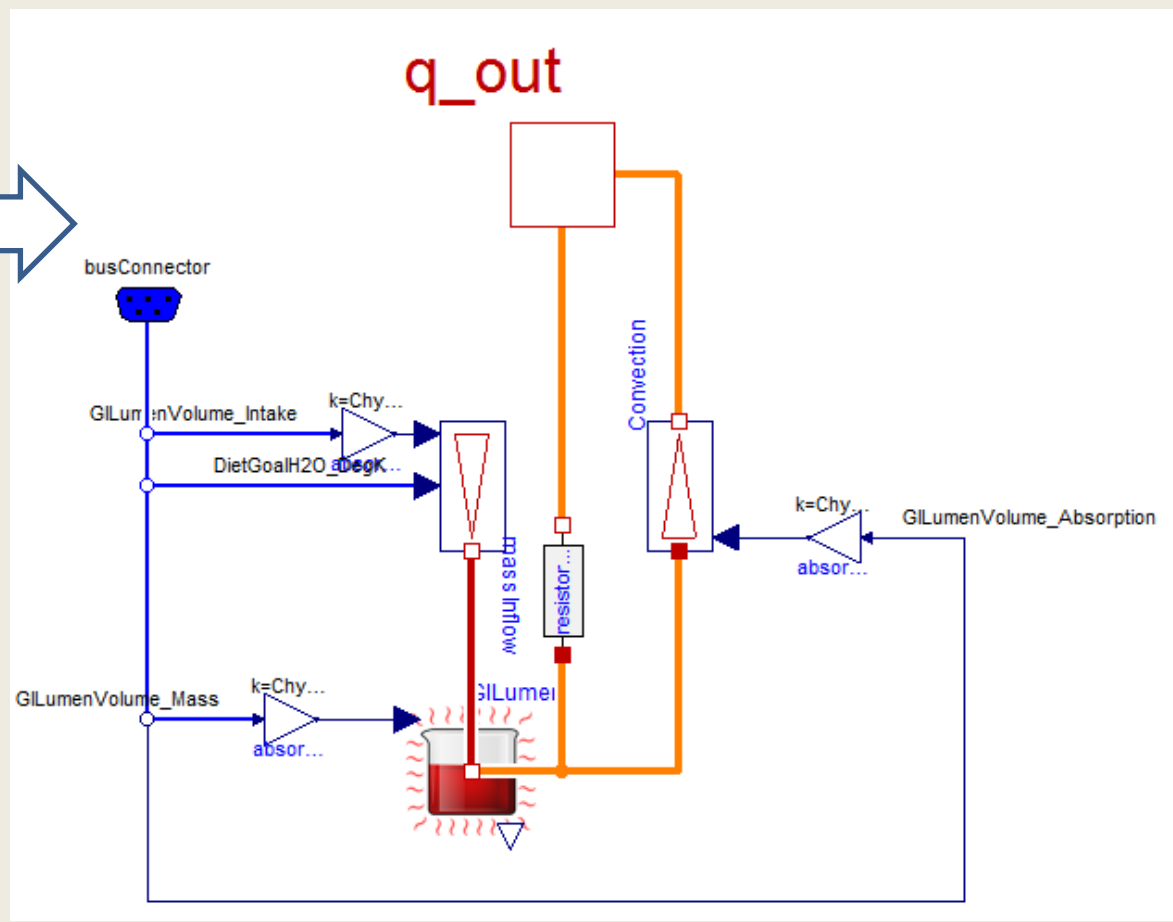
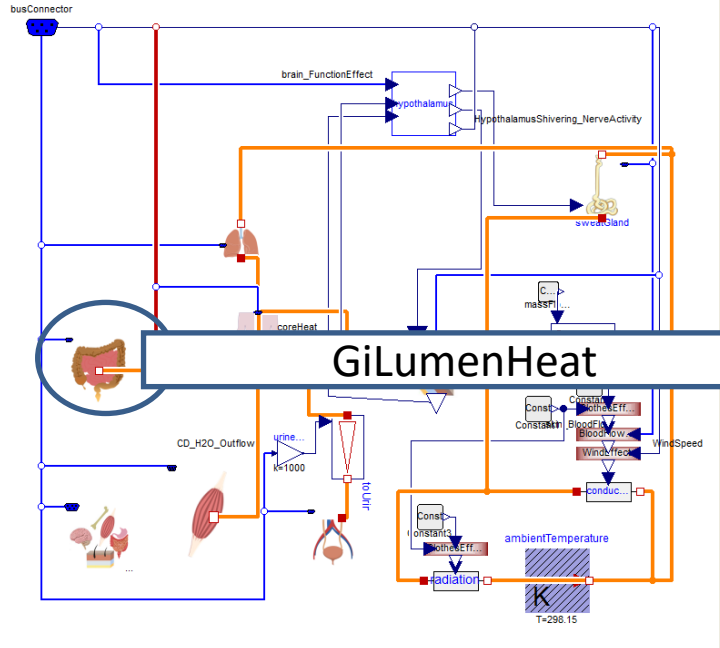
muscleheat

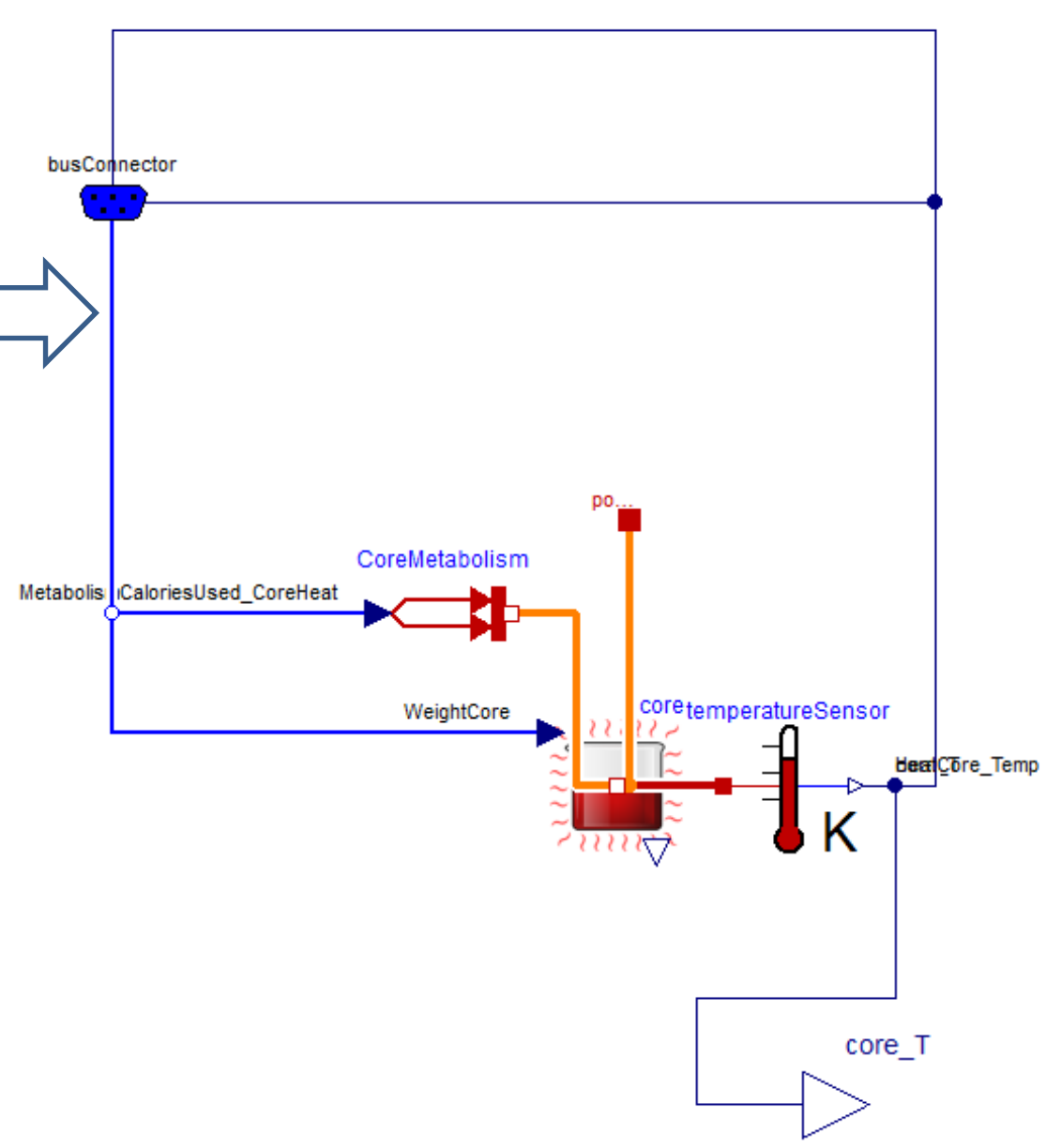
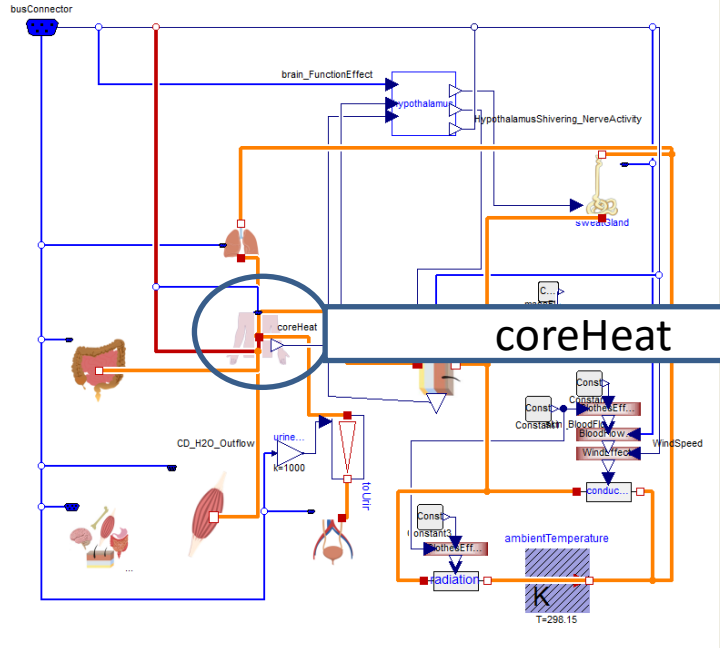


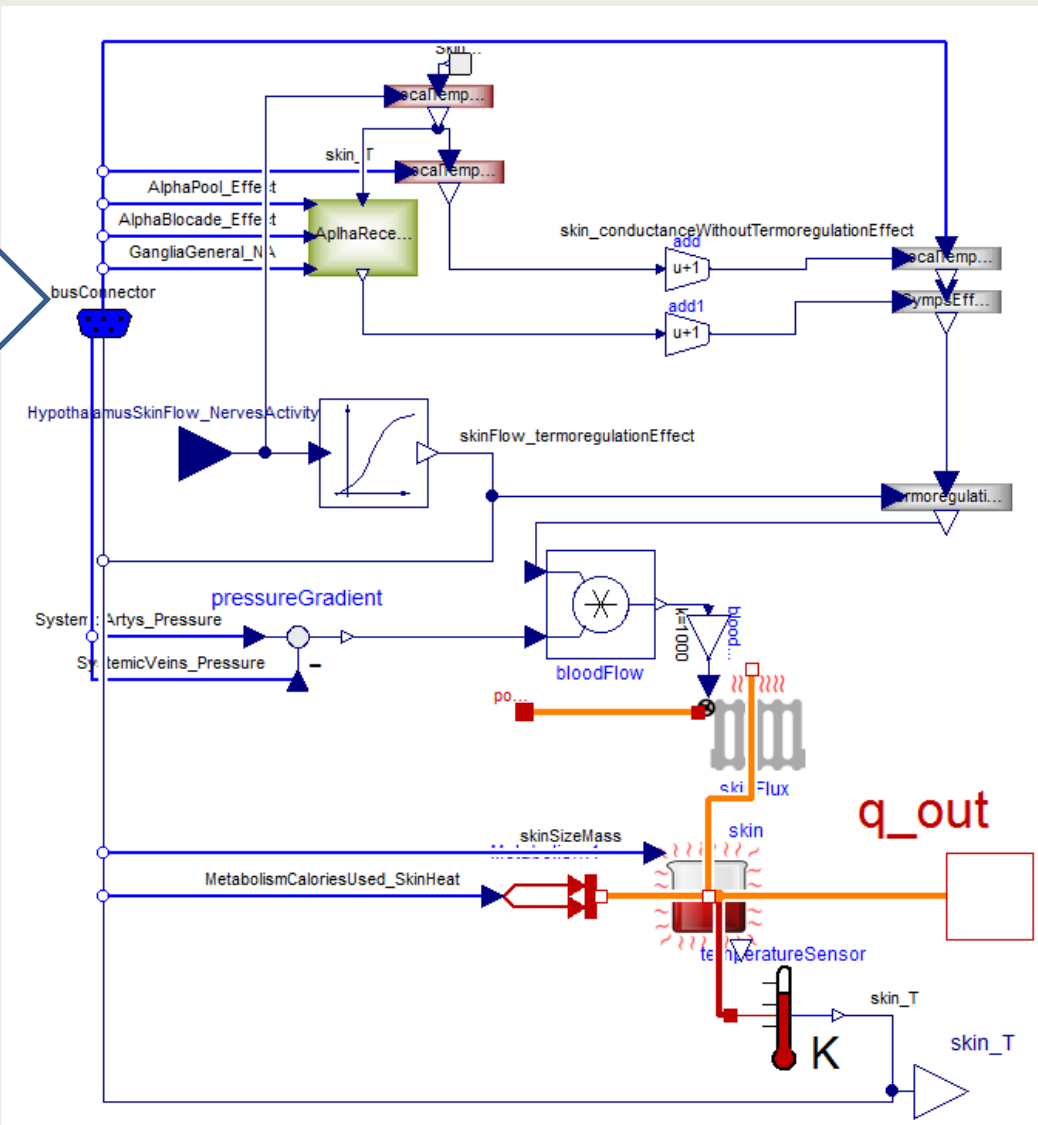
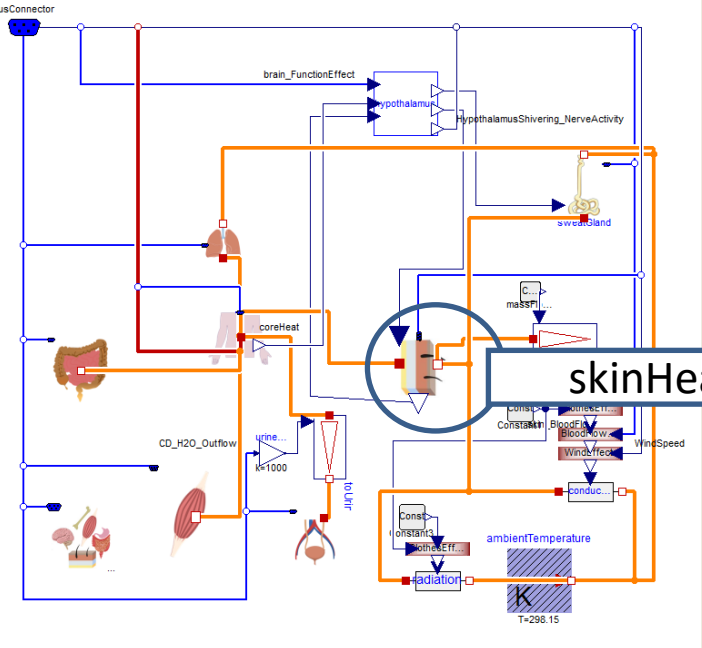


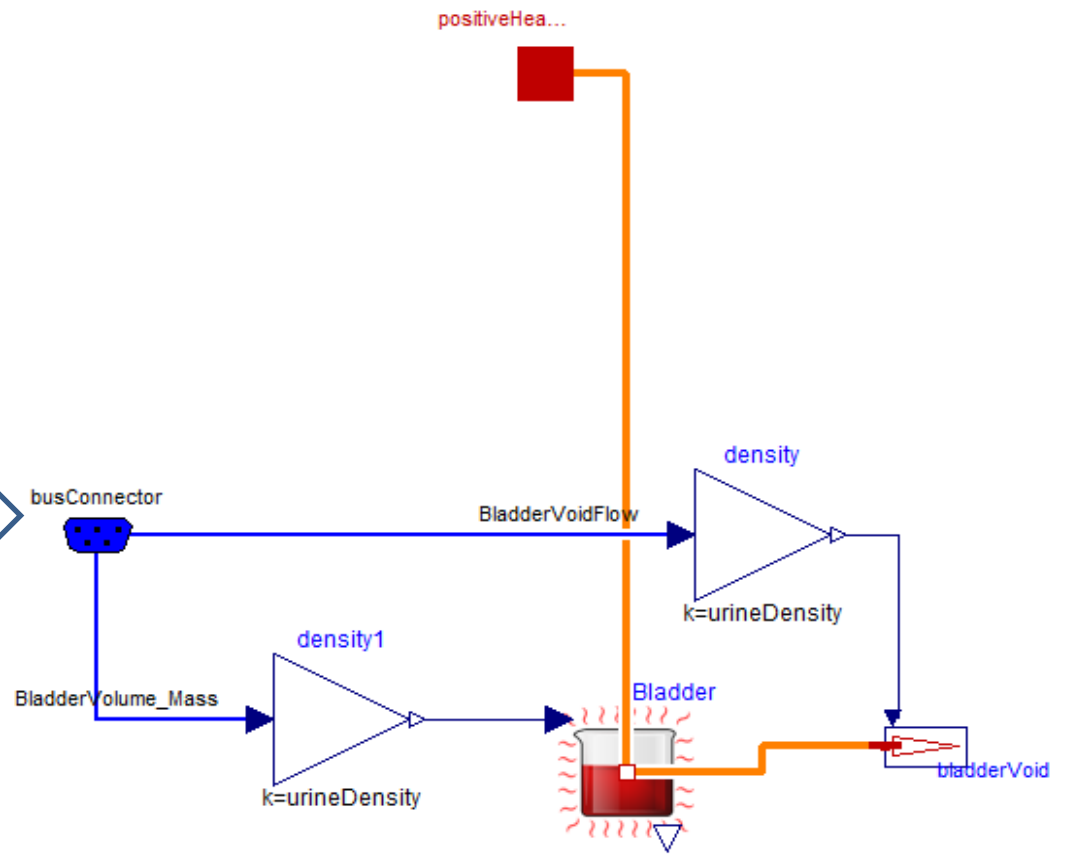
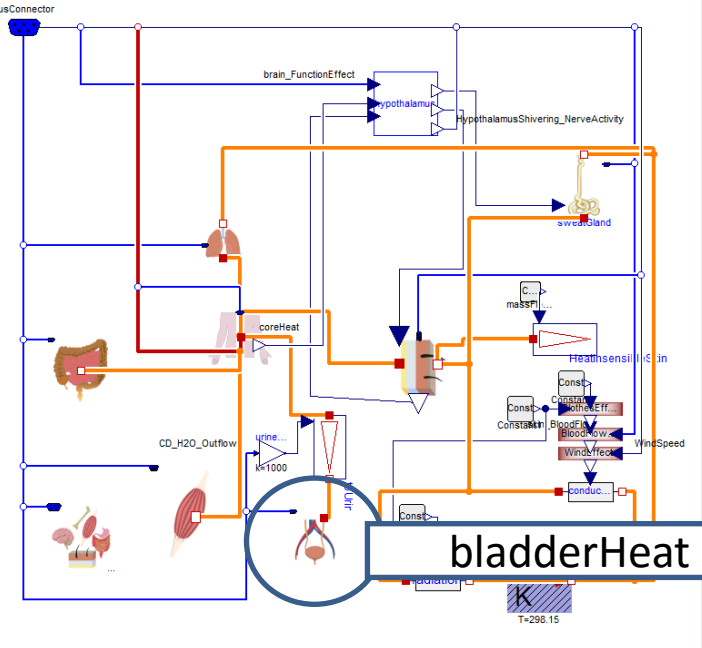
busConnector

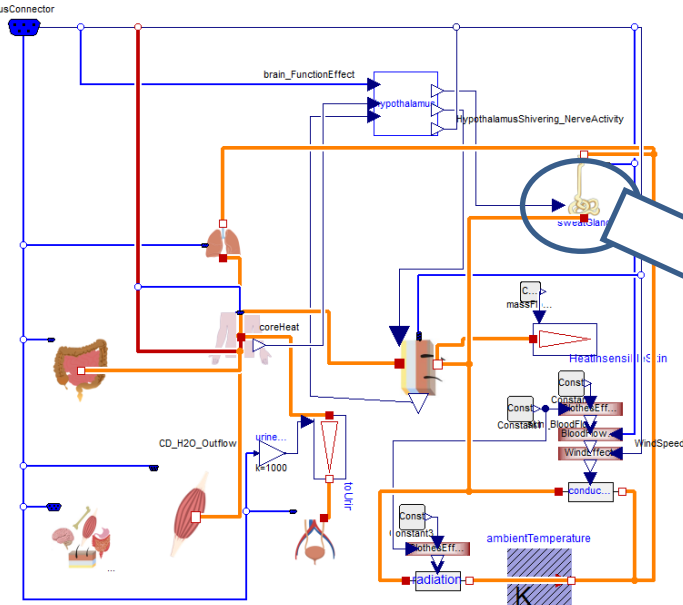




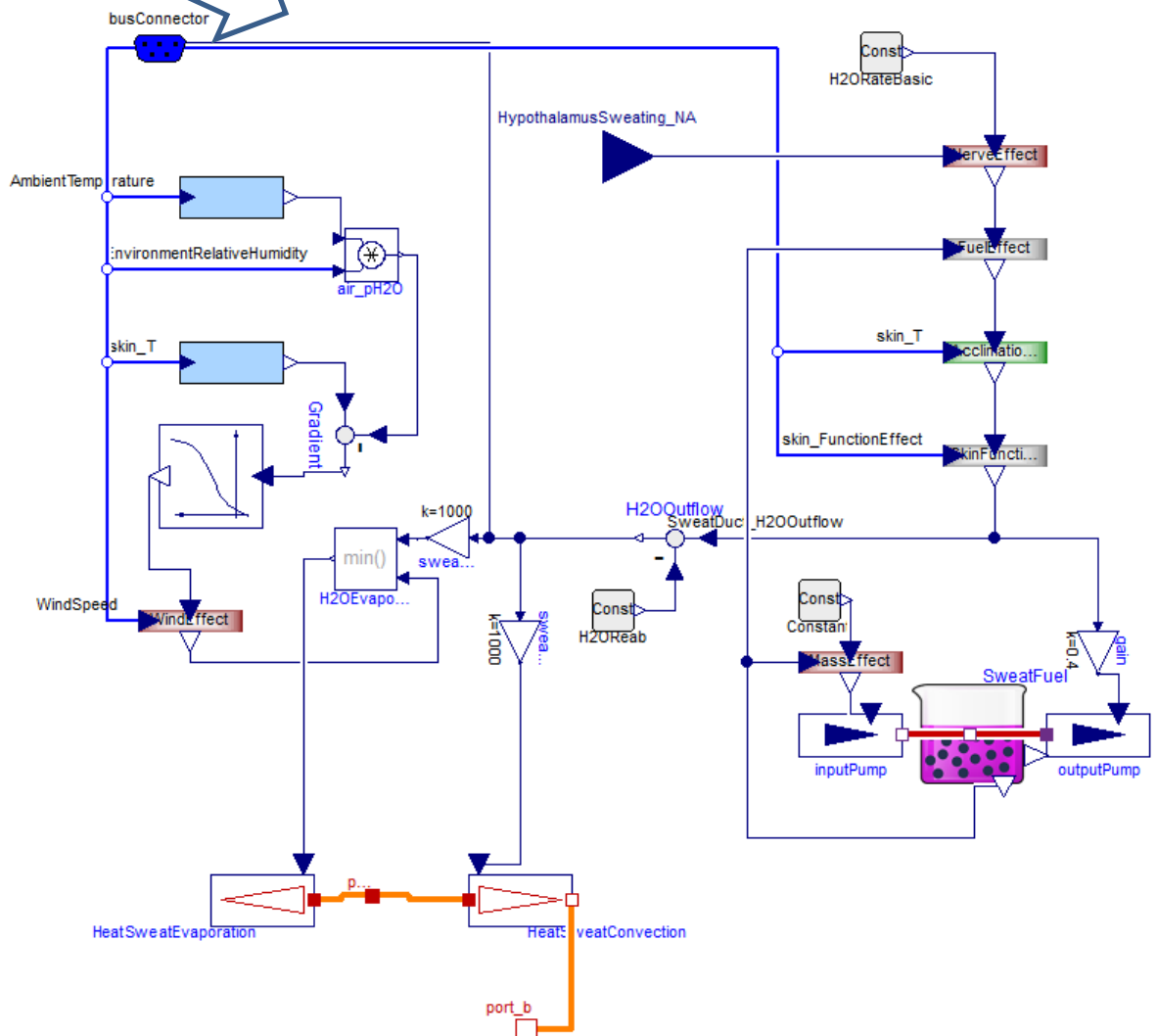


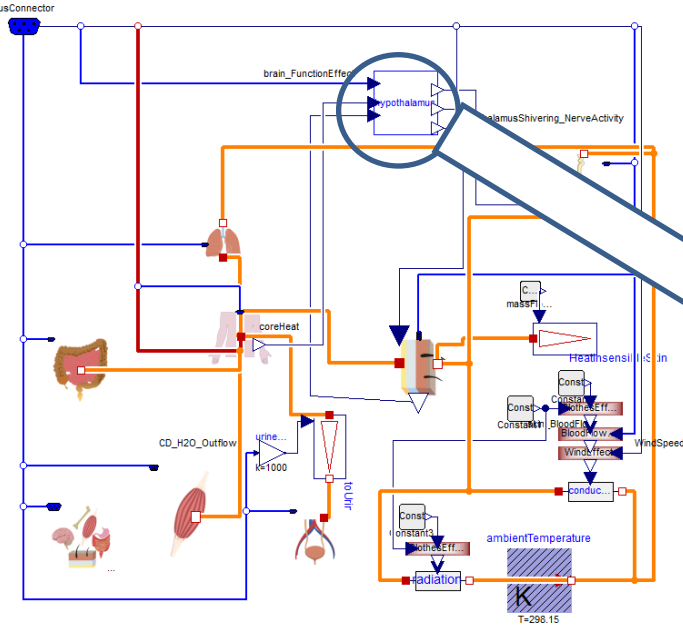




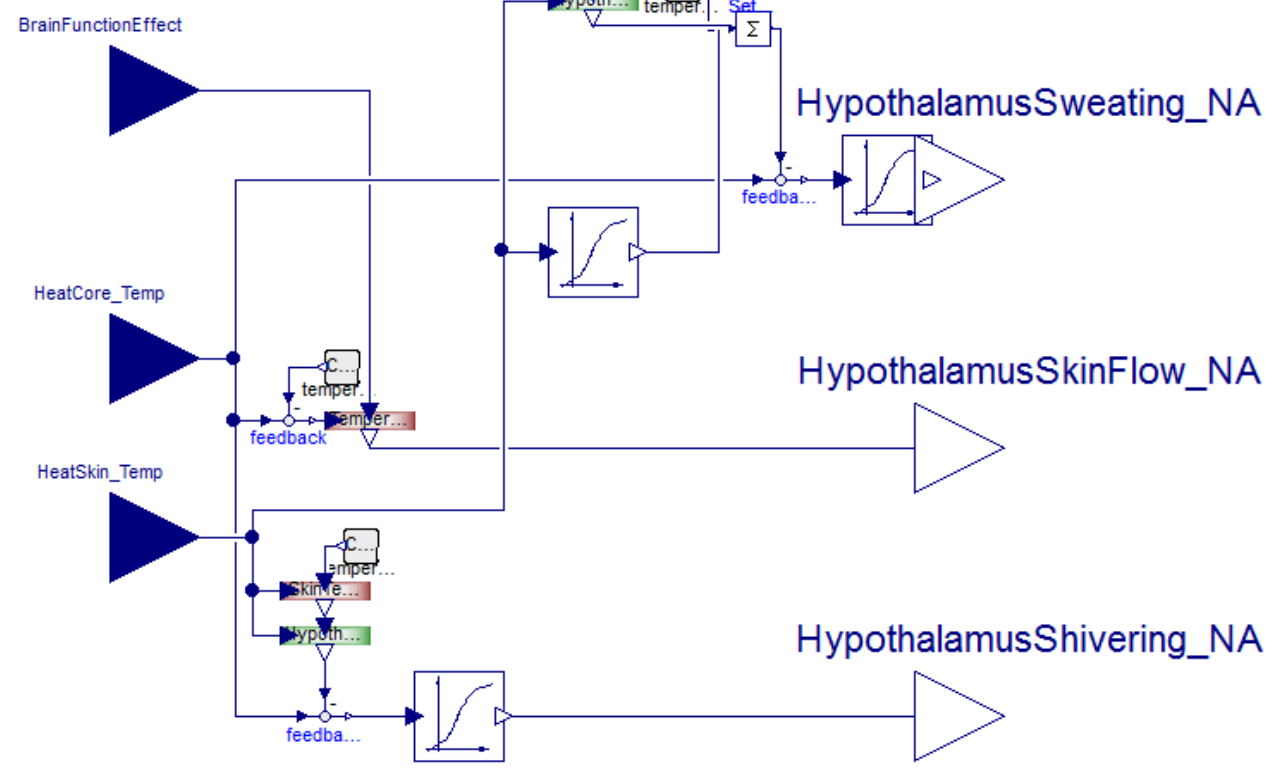


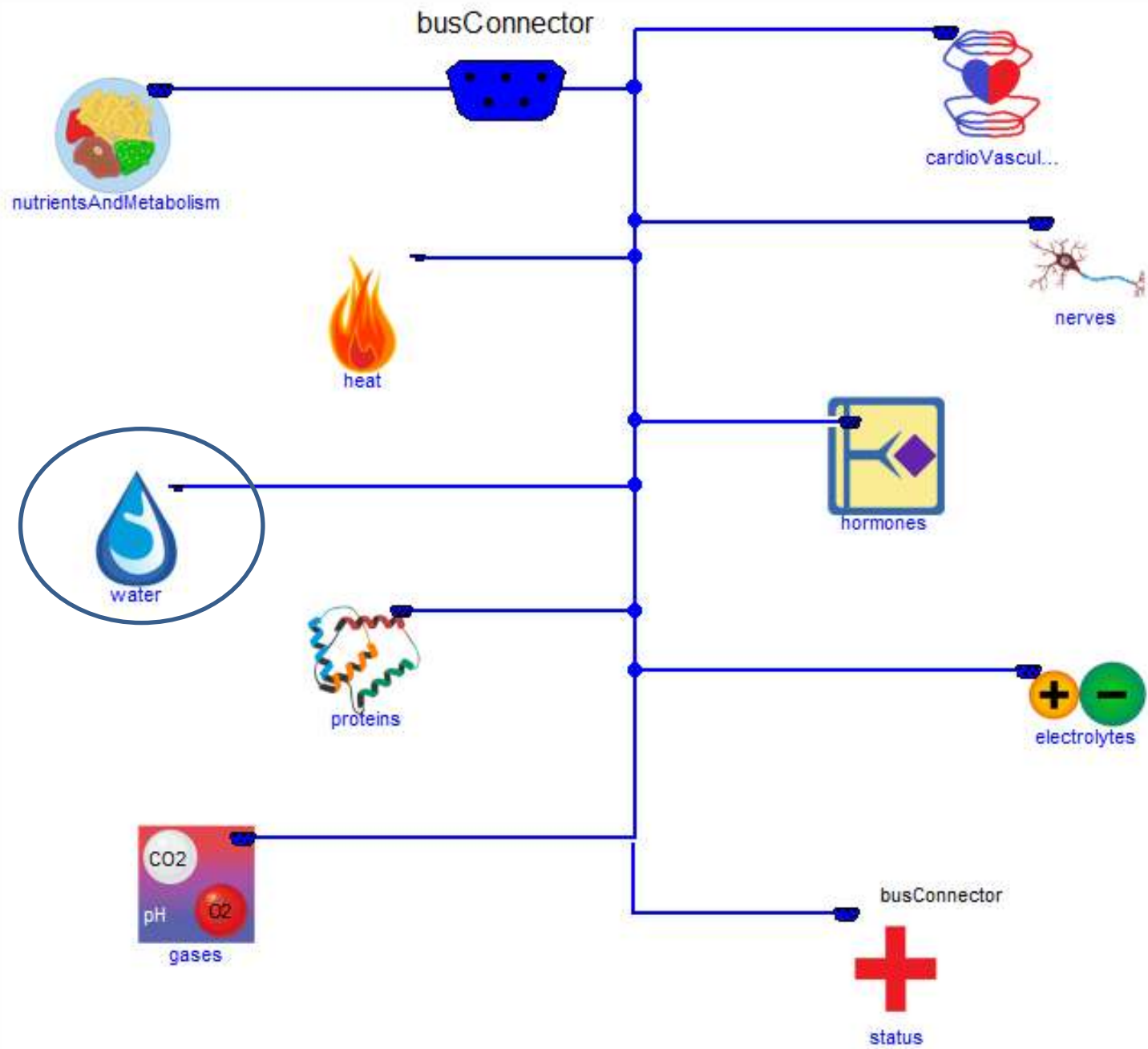
sweatGland

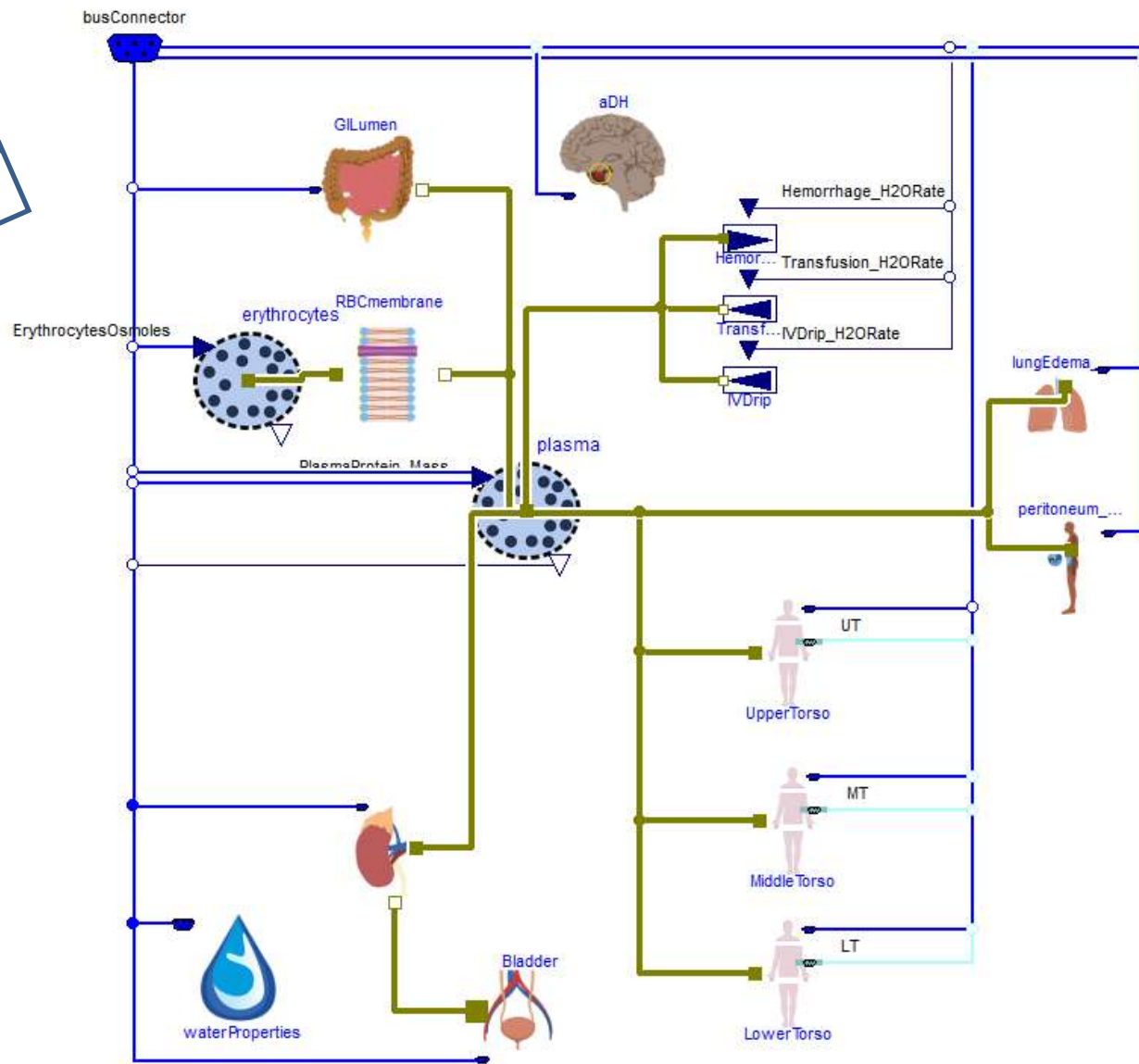
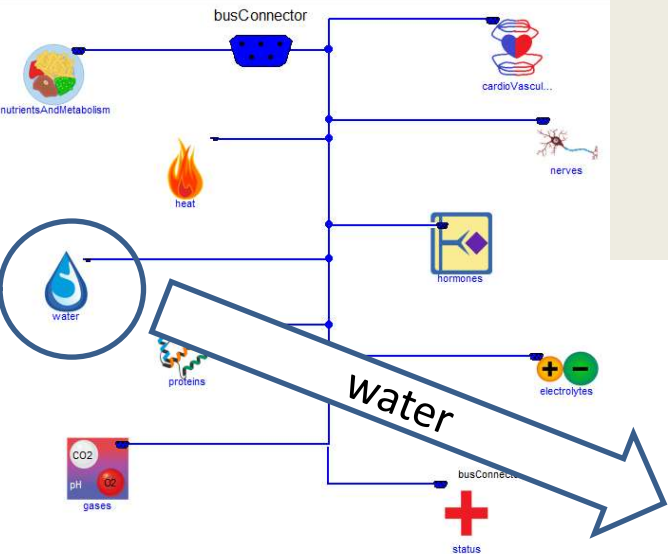


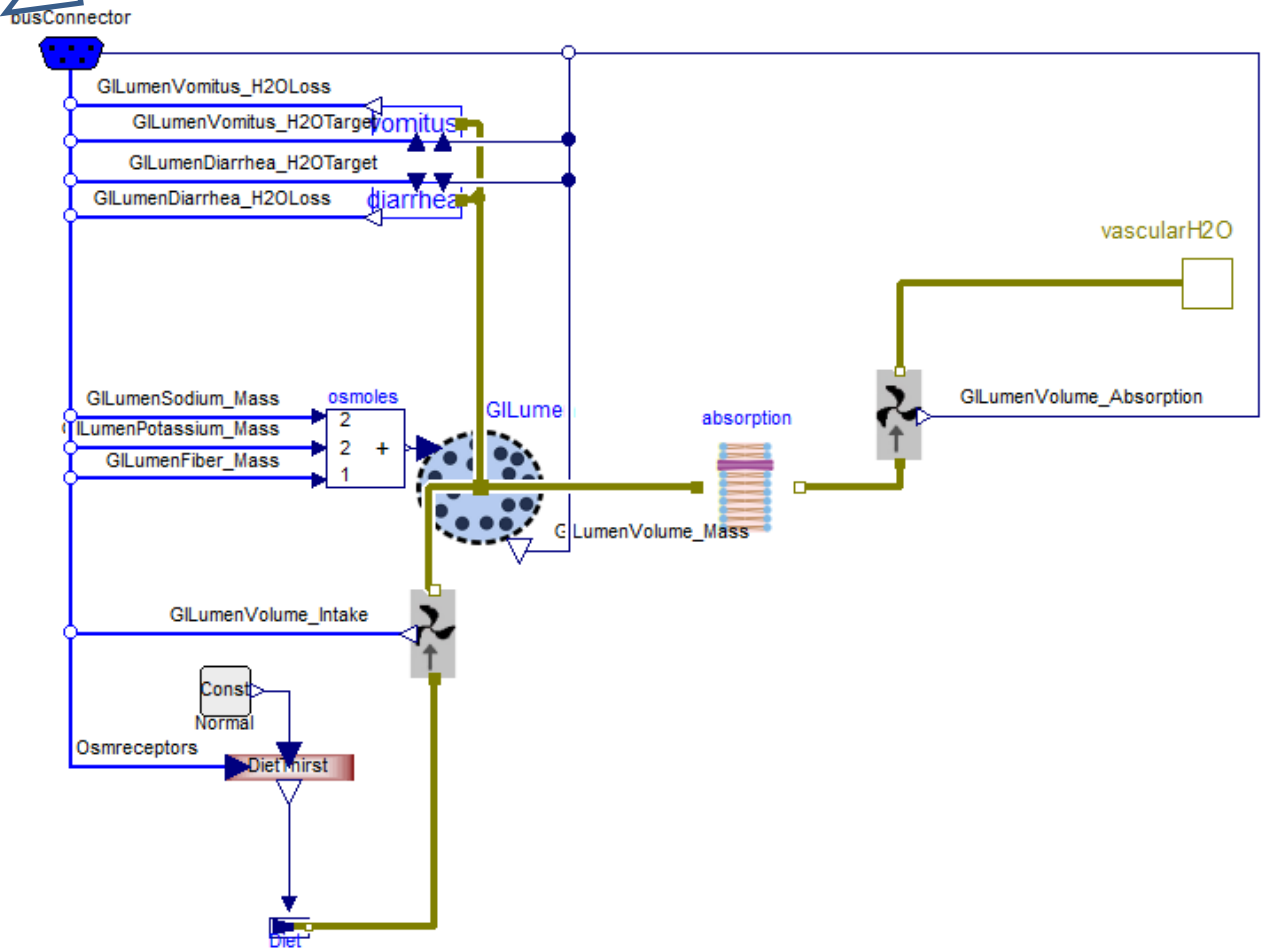
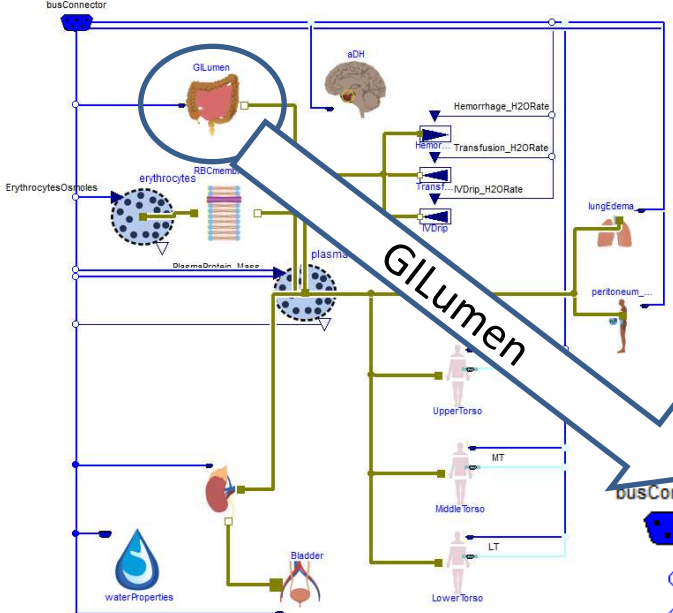


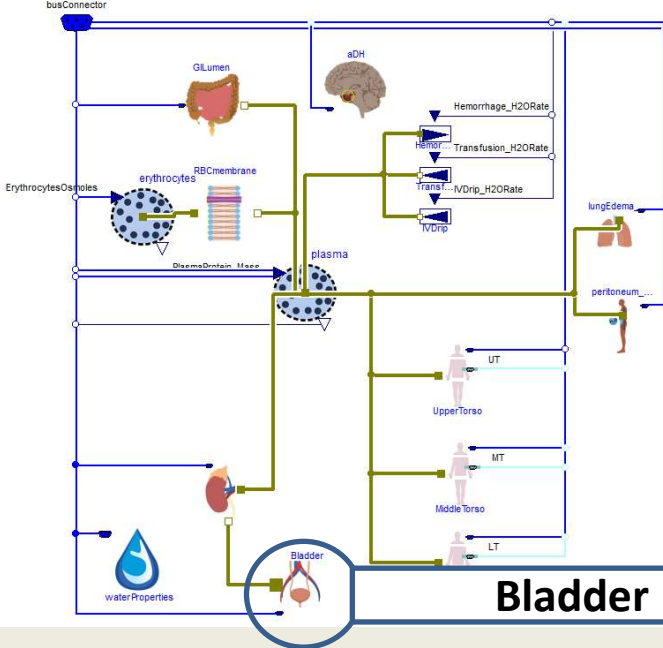
hypothalamus



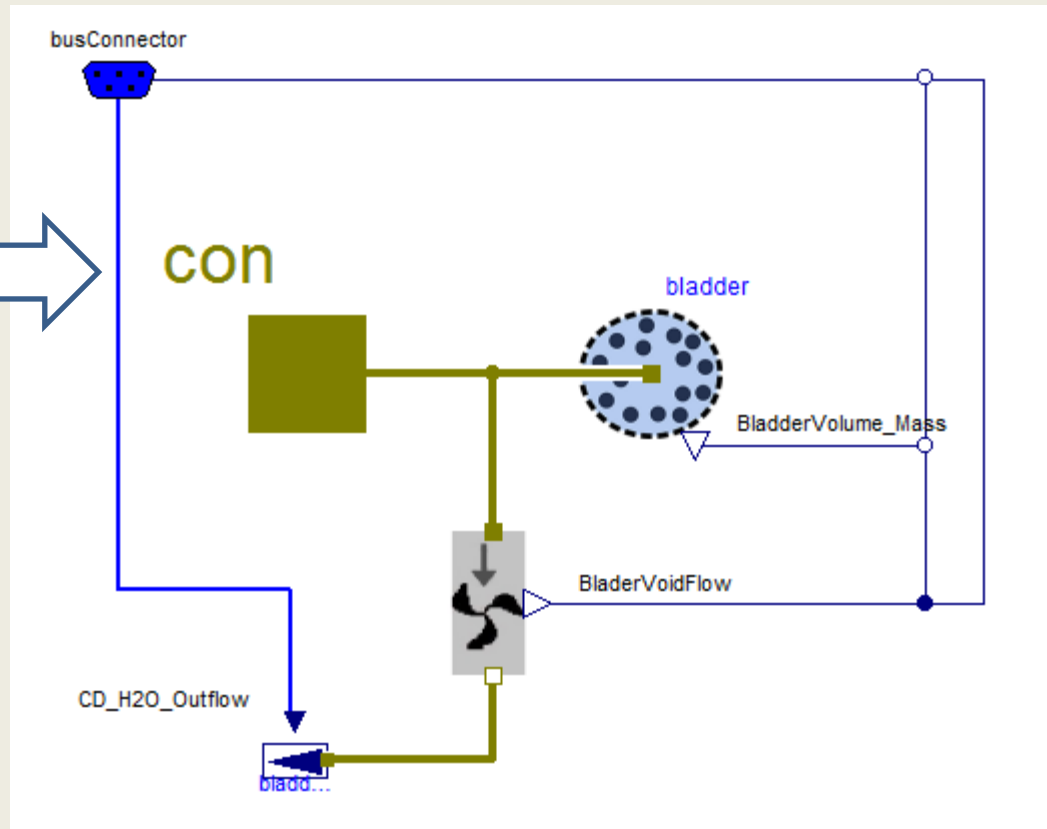


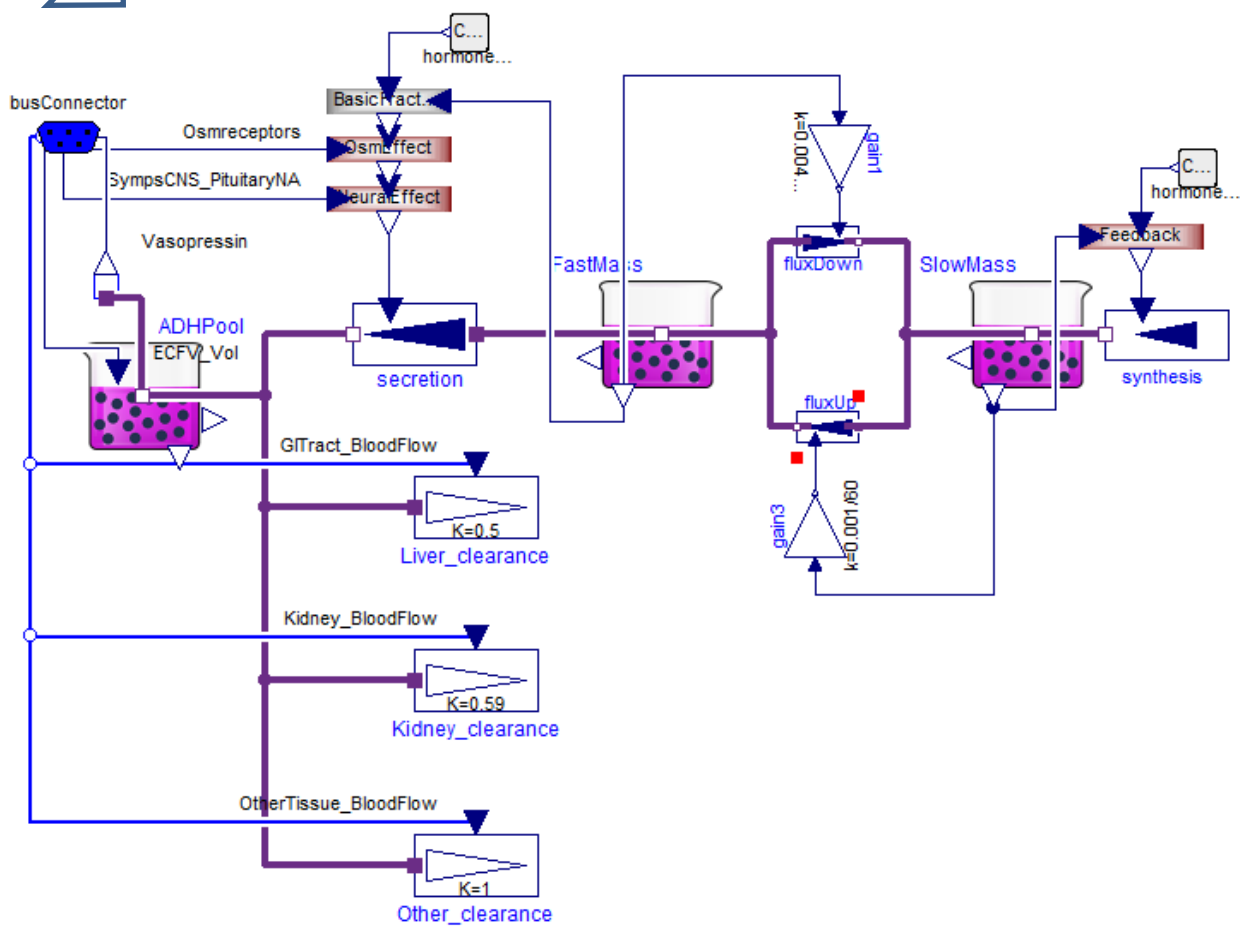
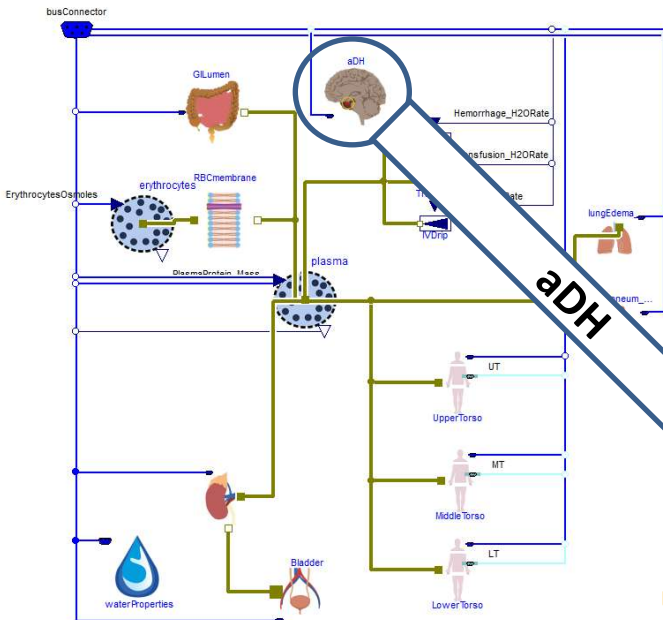


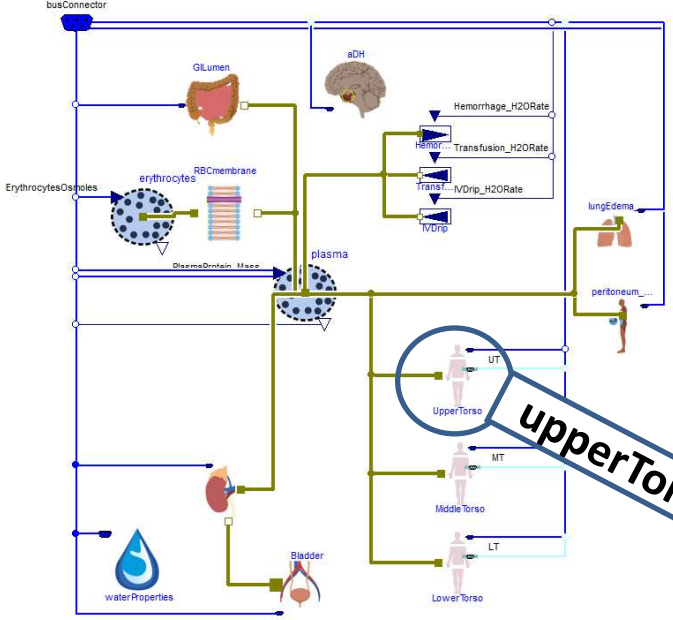




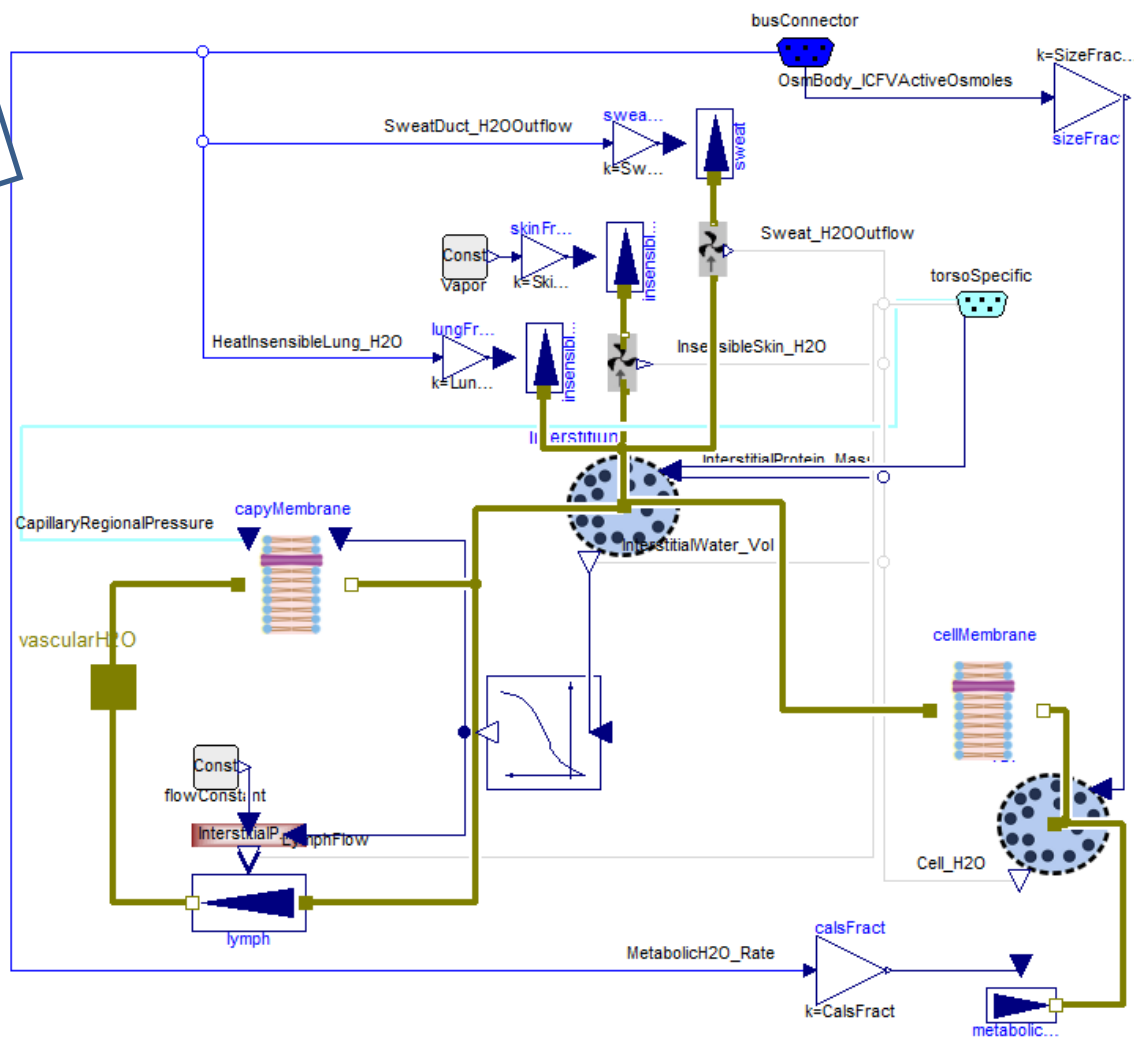
Bladder

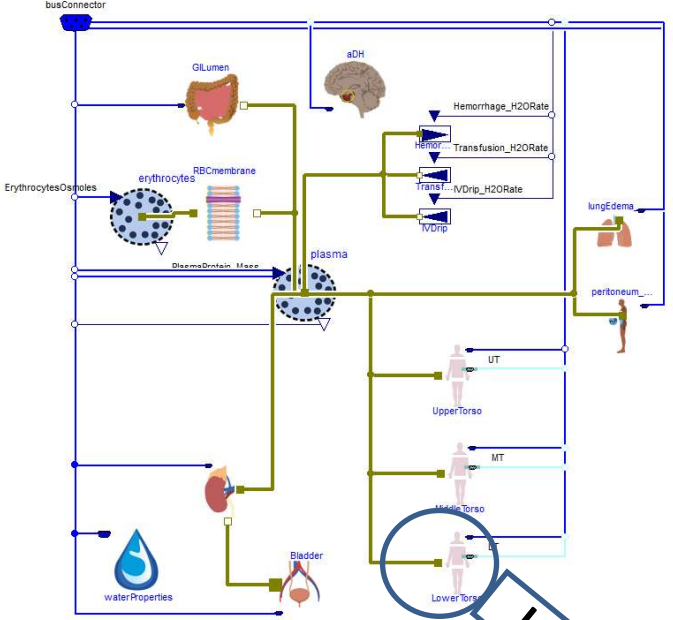




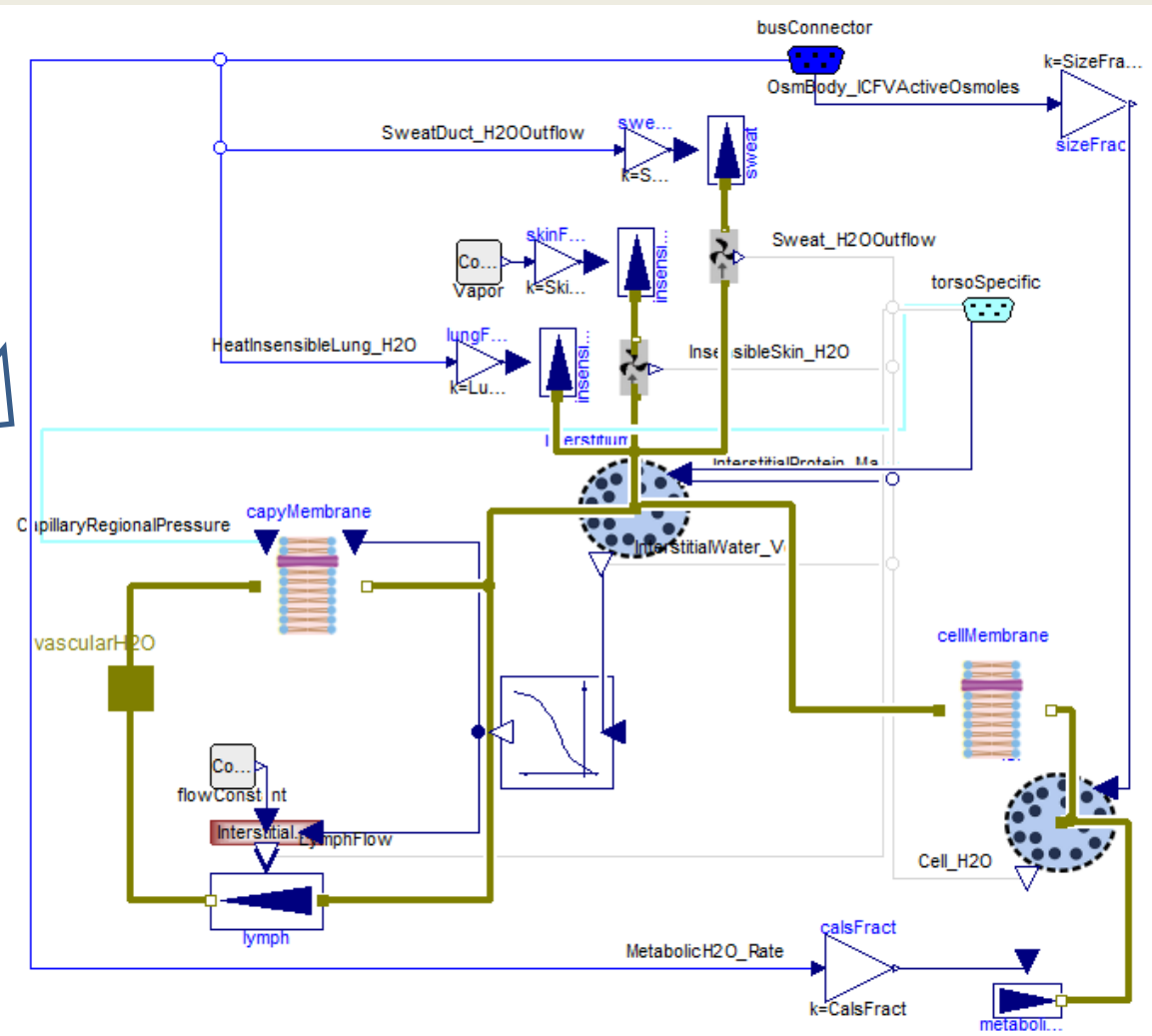


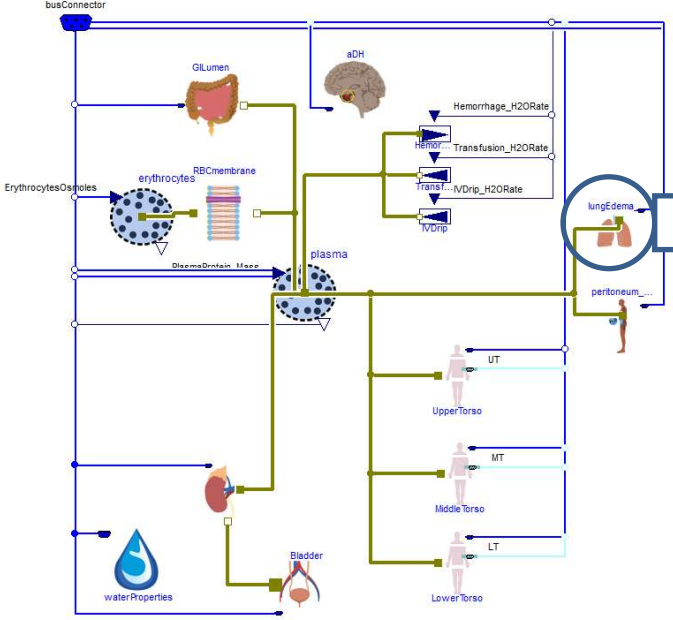
upperTorso



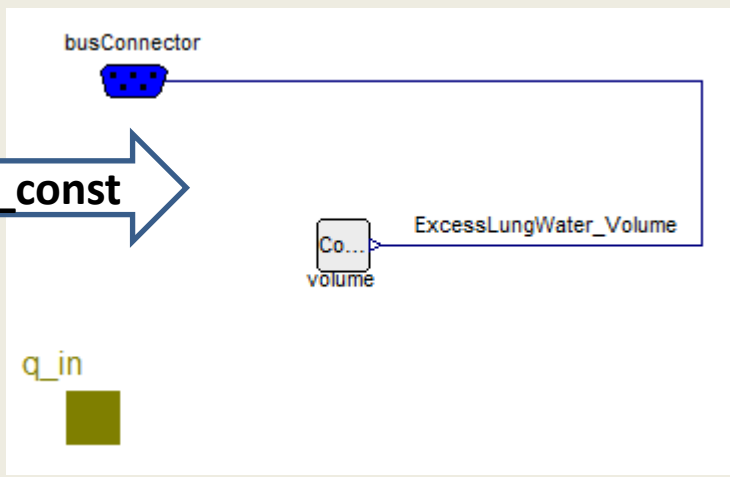


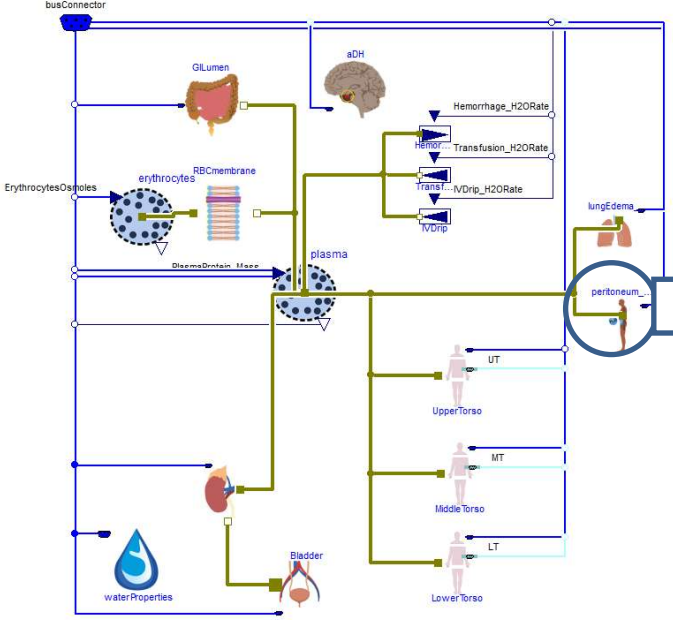
lowerTorso



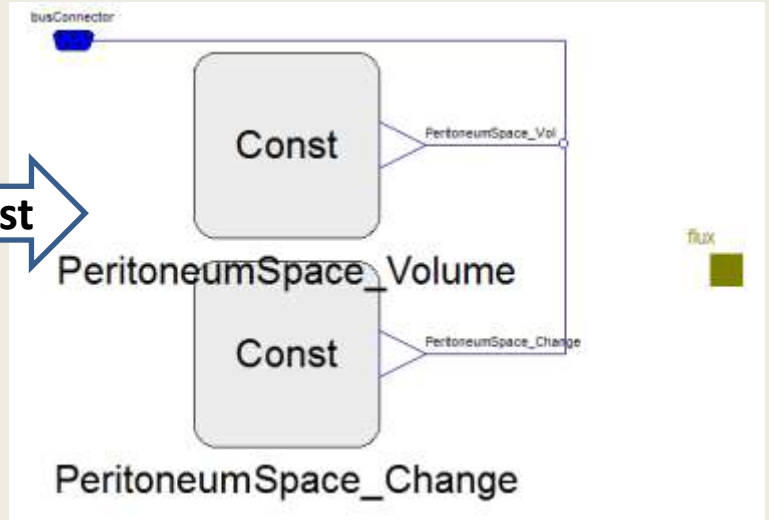


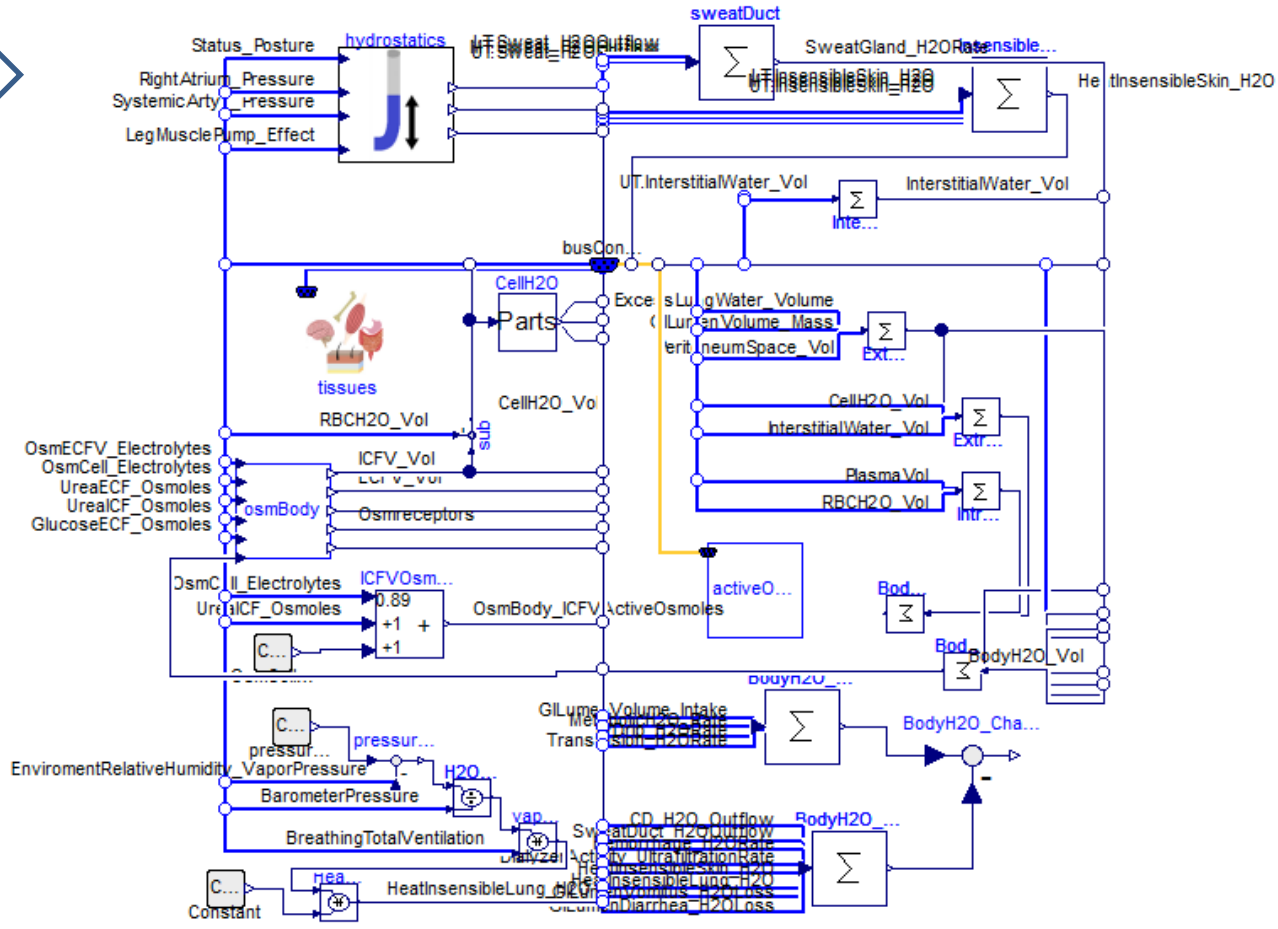
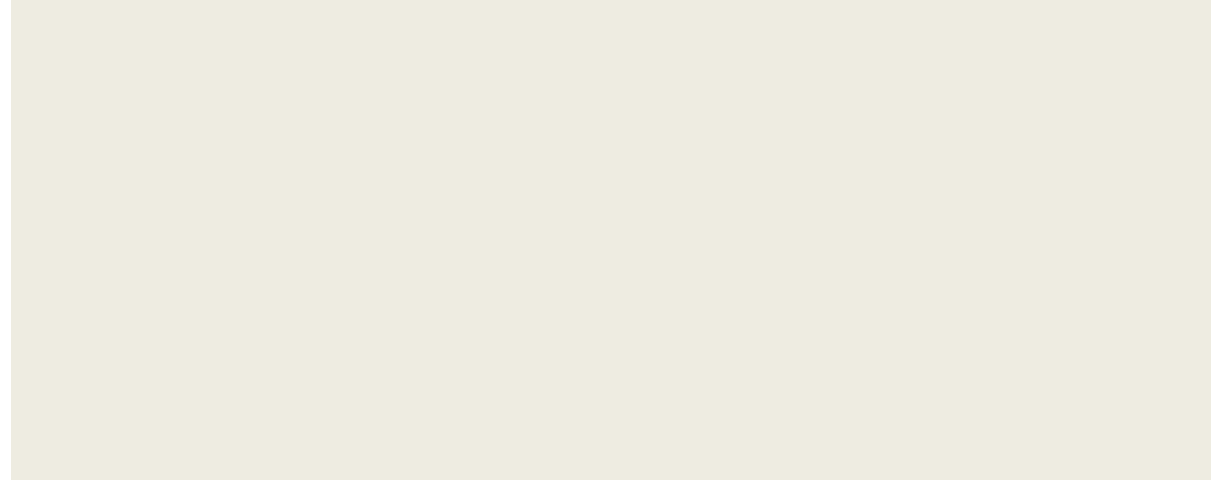
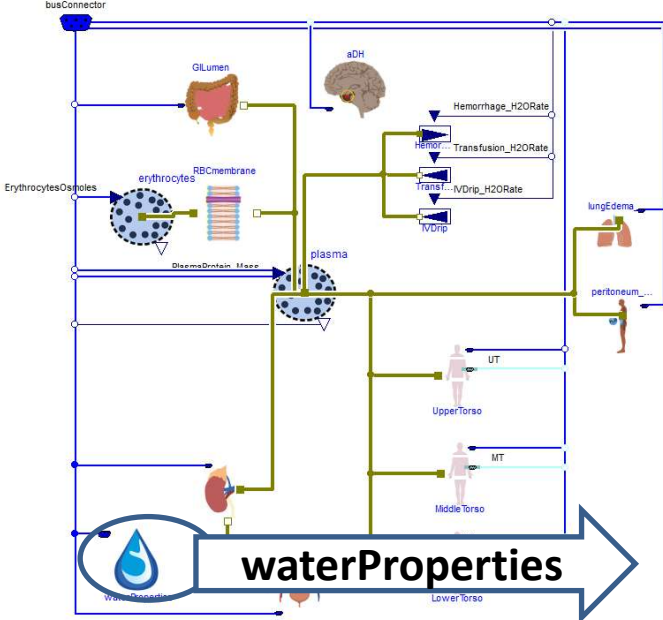
lungEdema_const

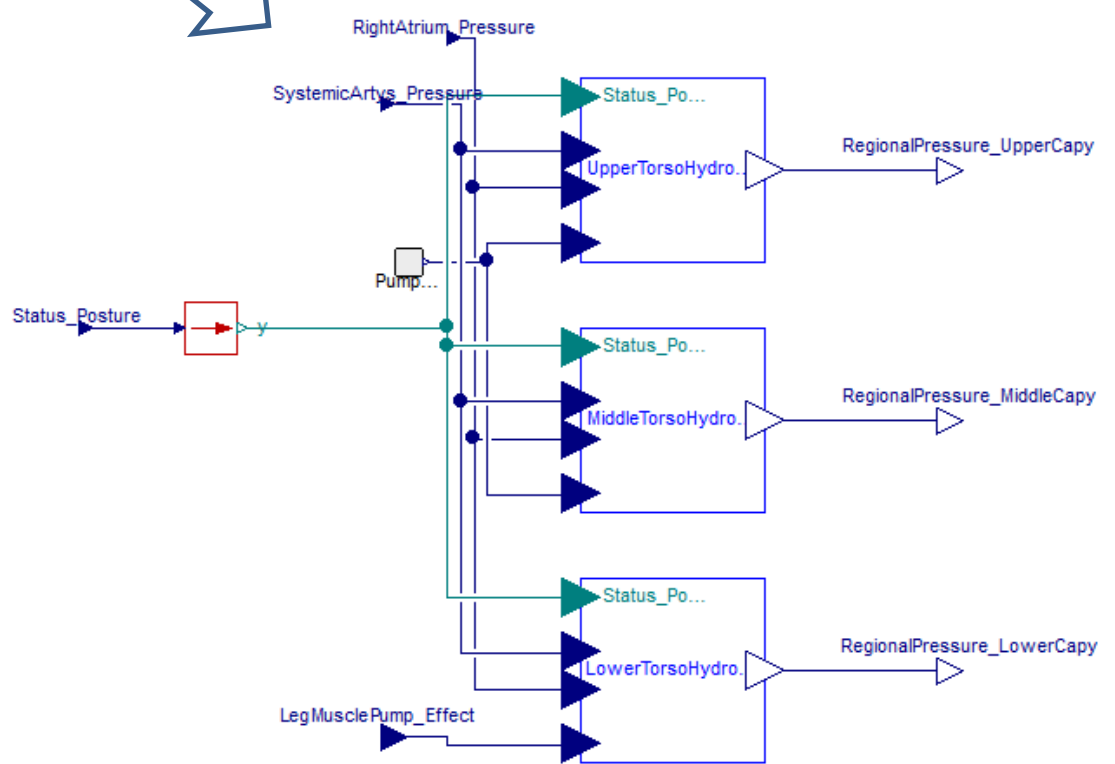
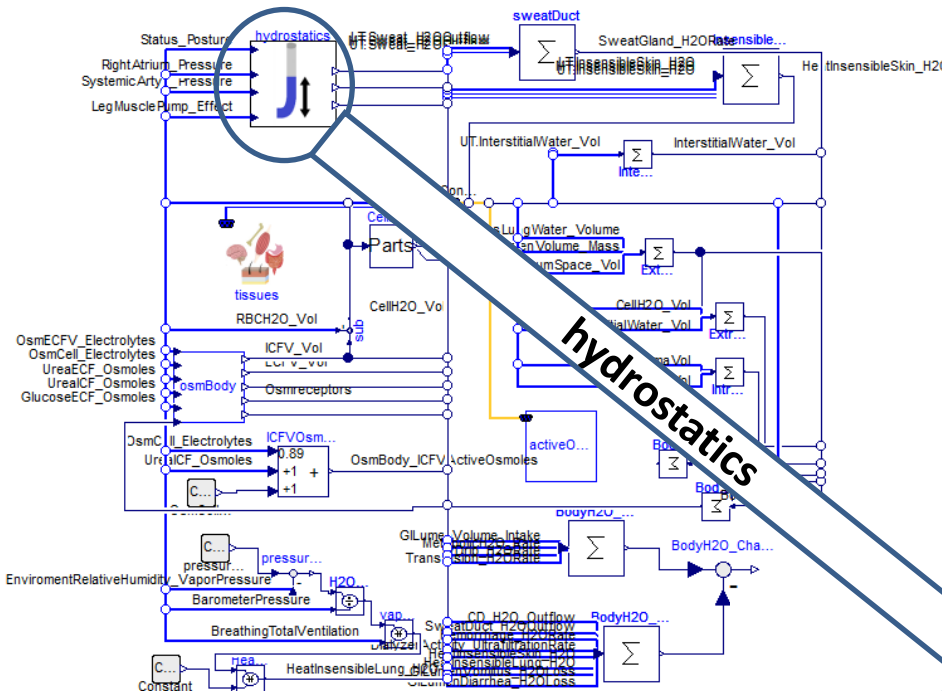


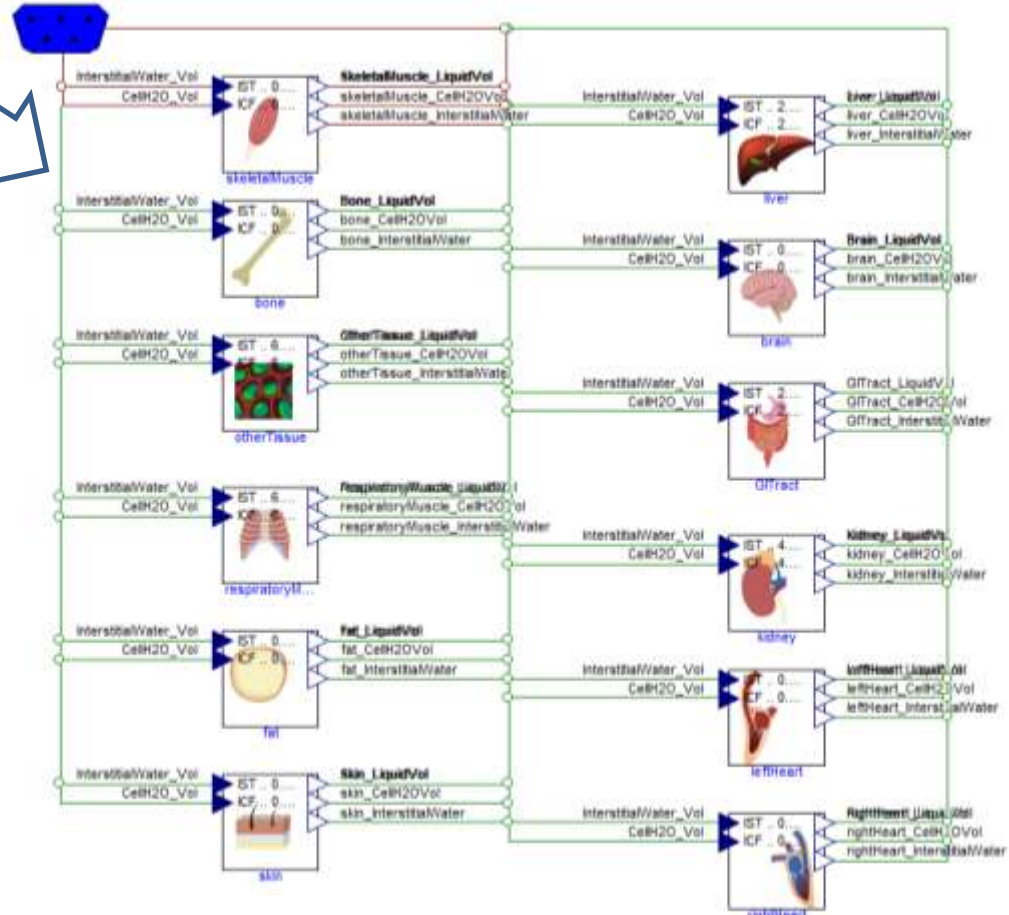
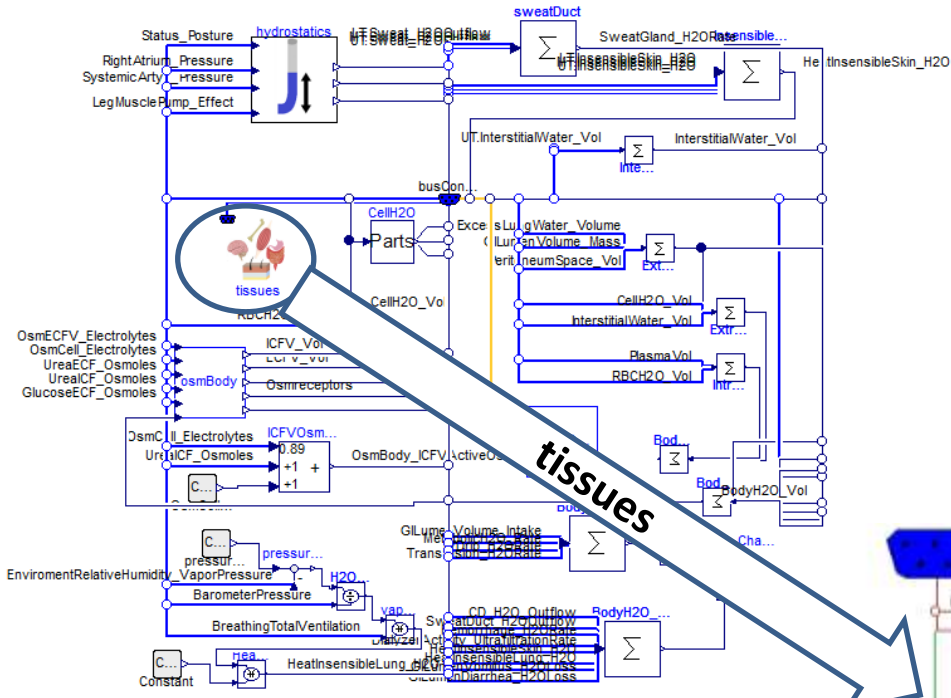


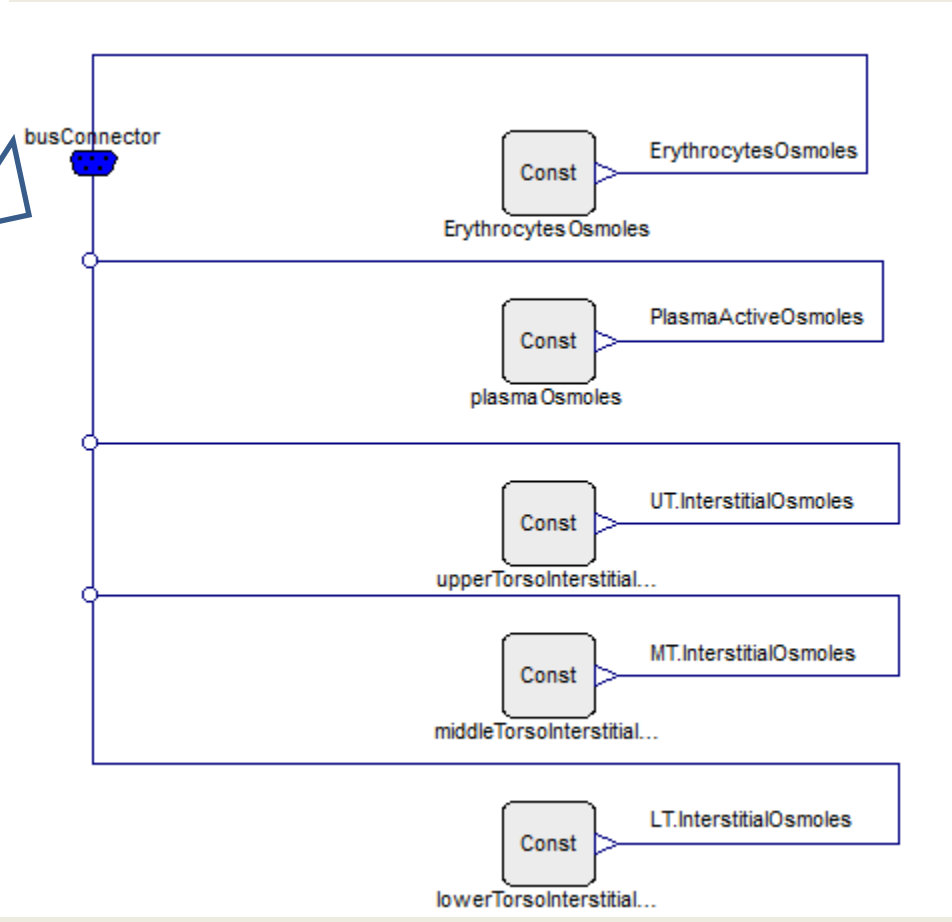
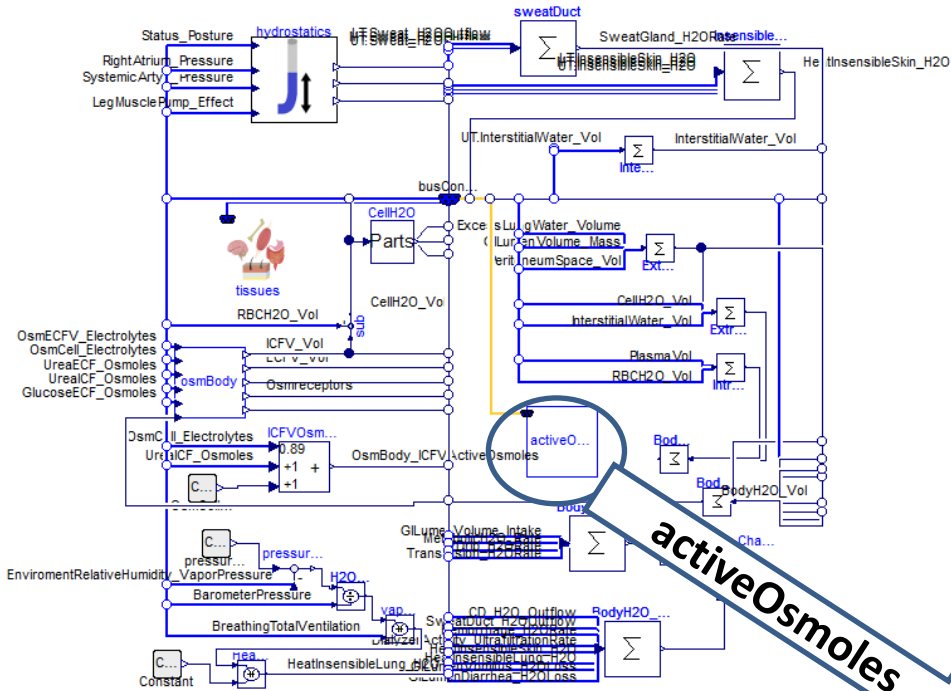
Peritoneum_const

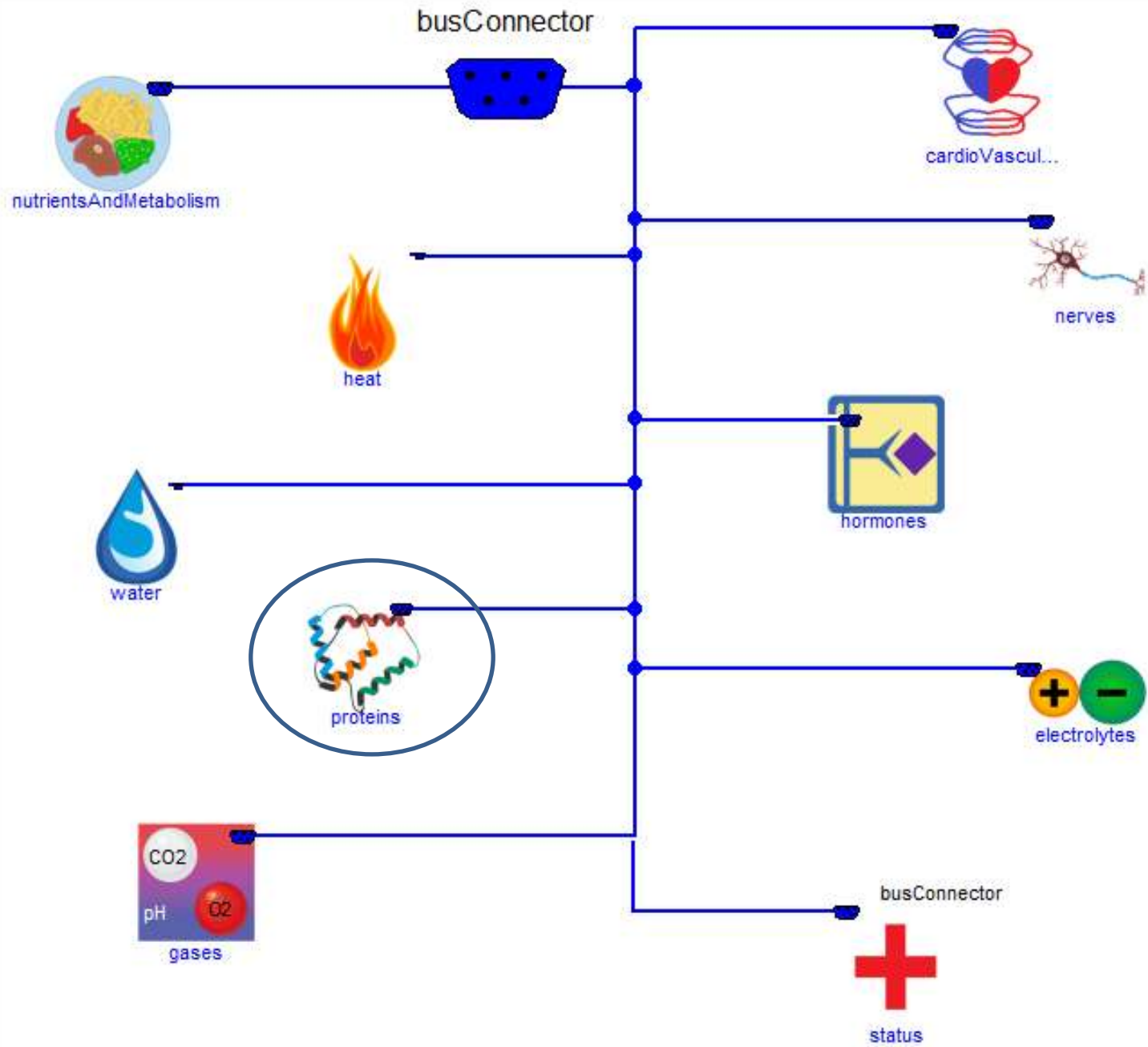


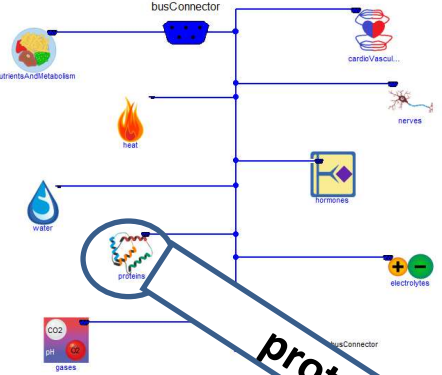




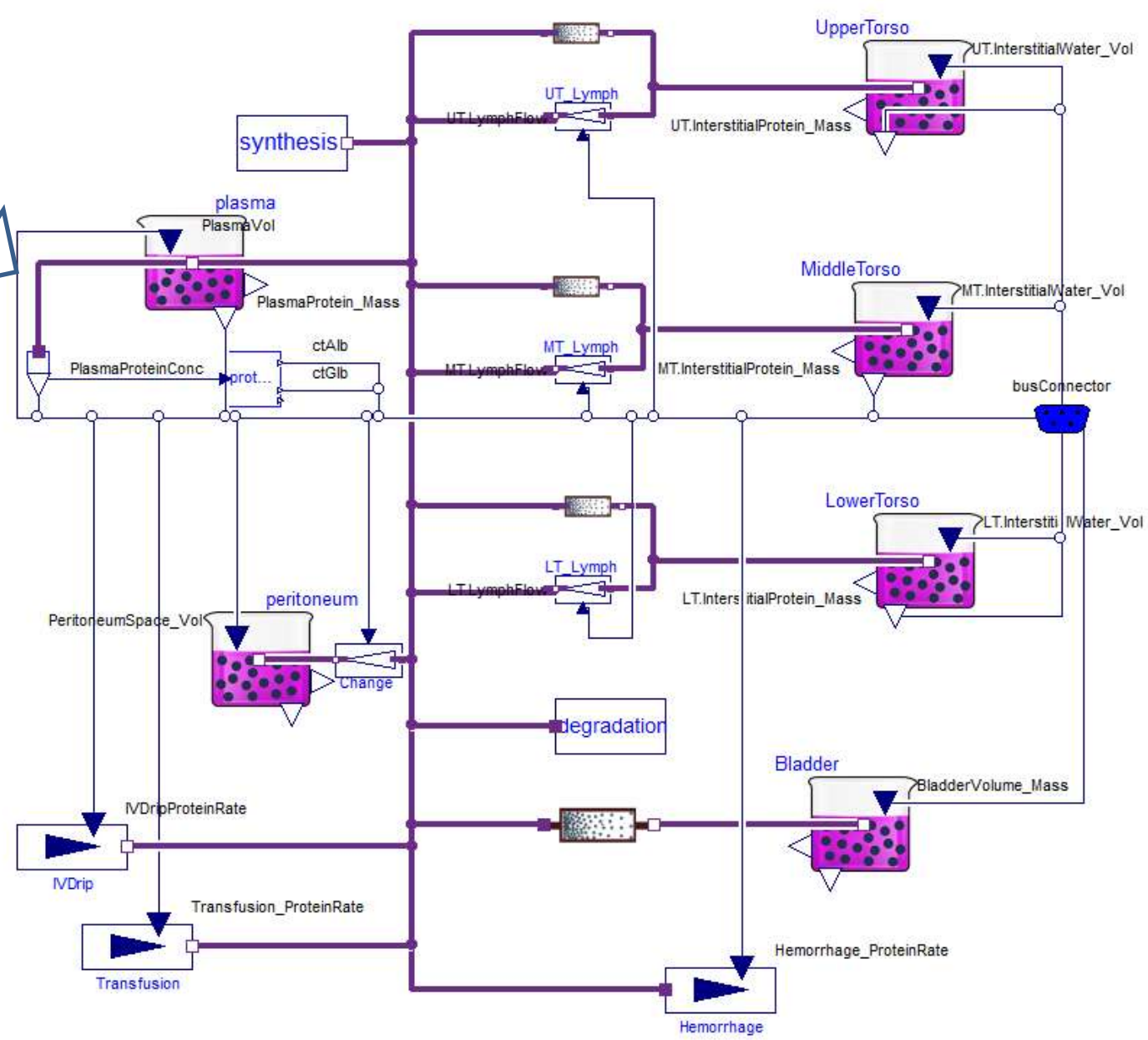


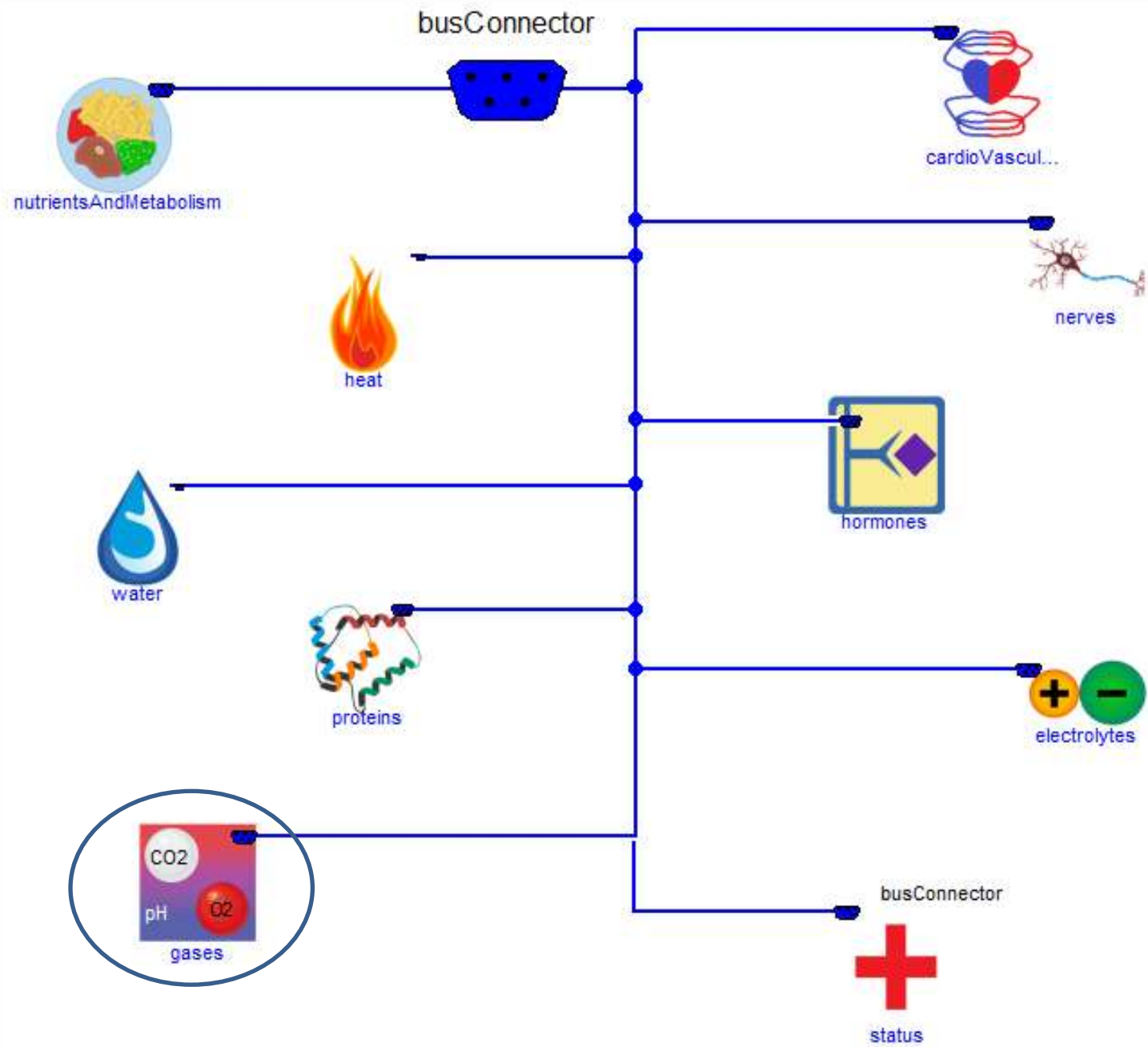


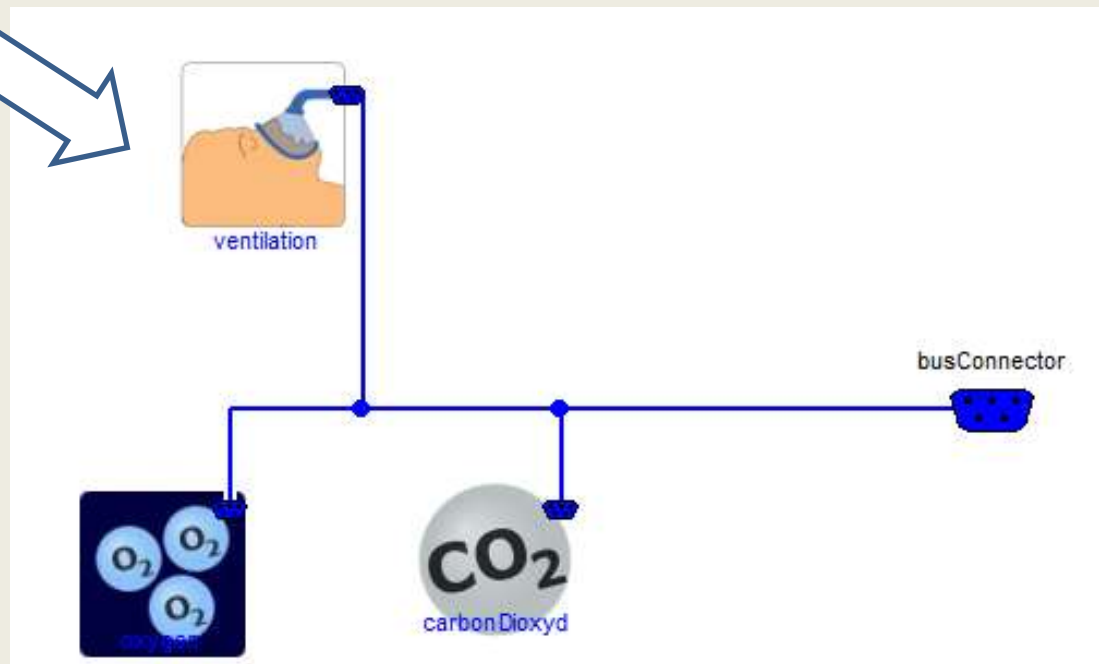
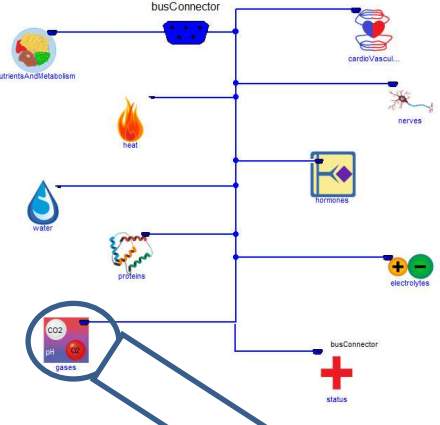


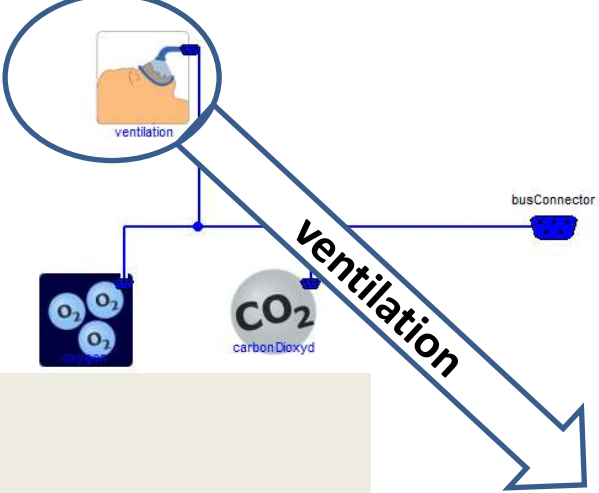


proteins

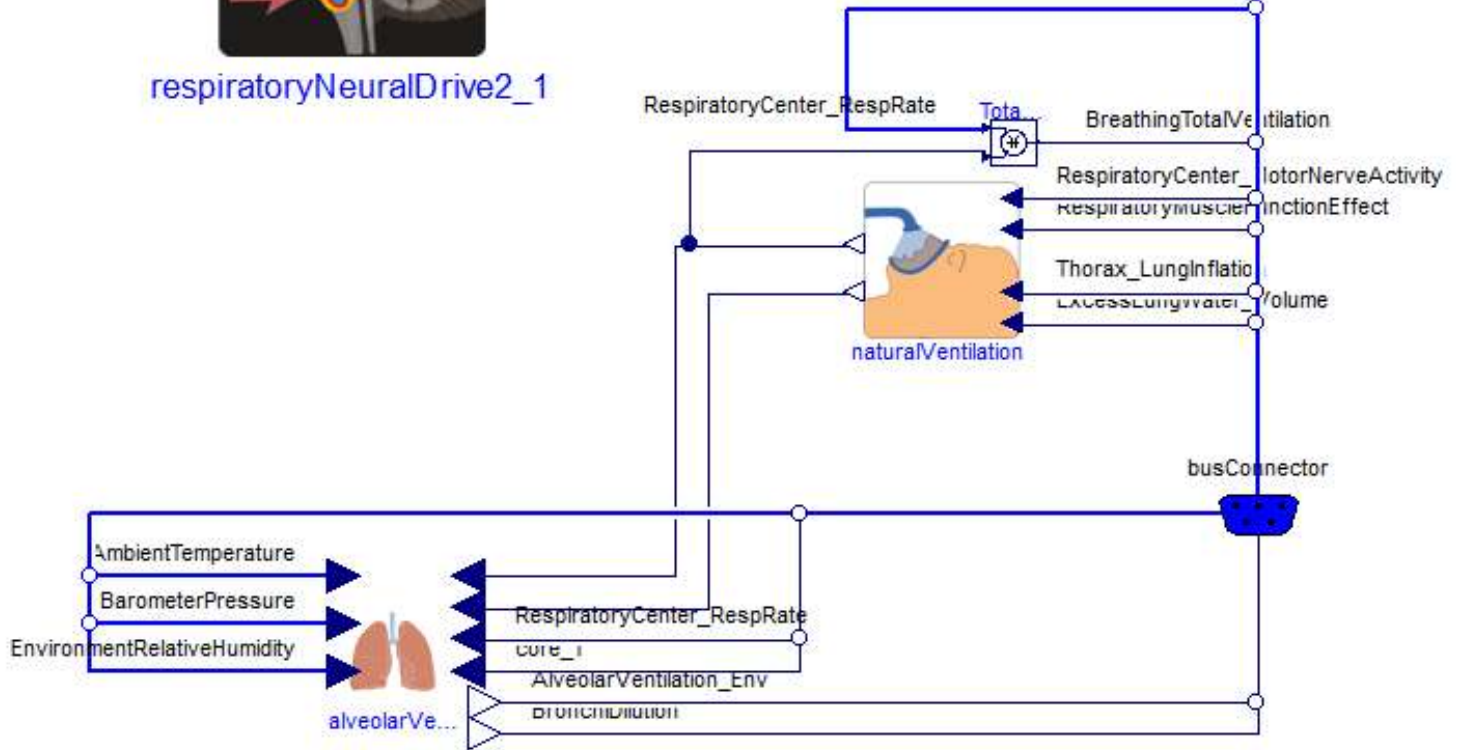


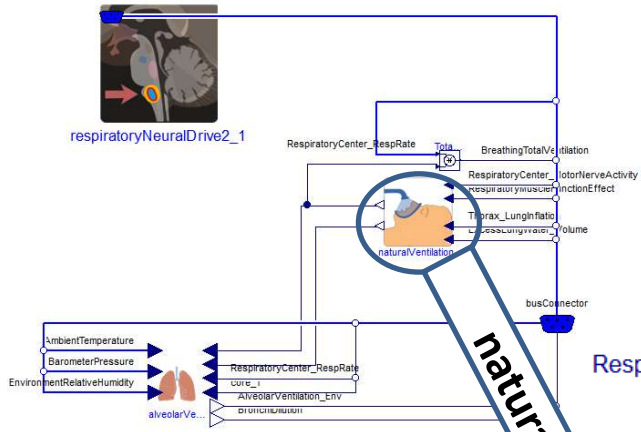






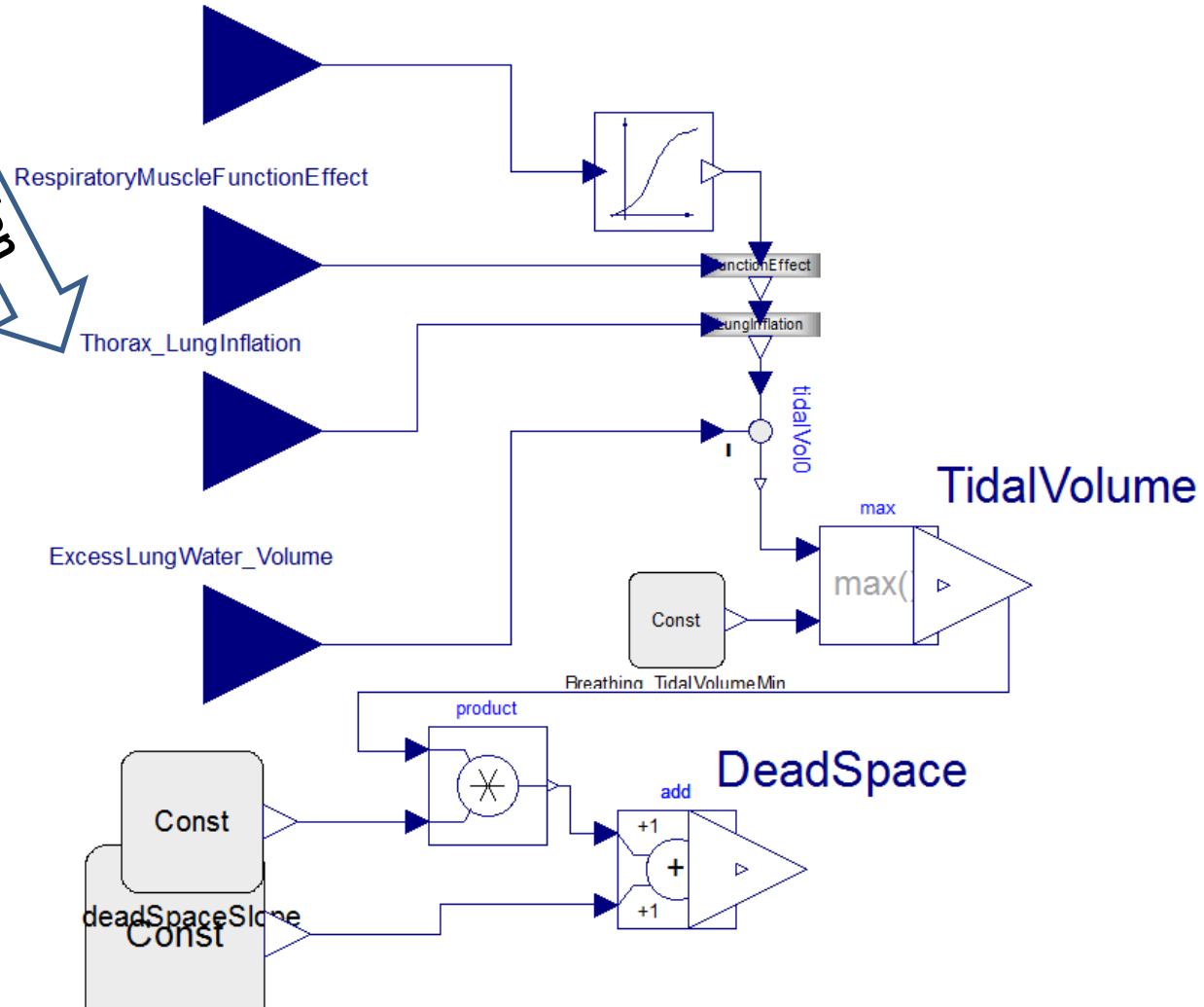
respiratoryNeuralDrive2_1

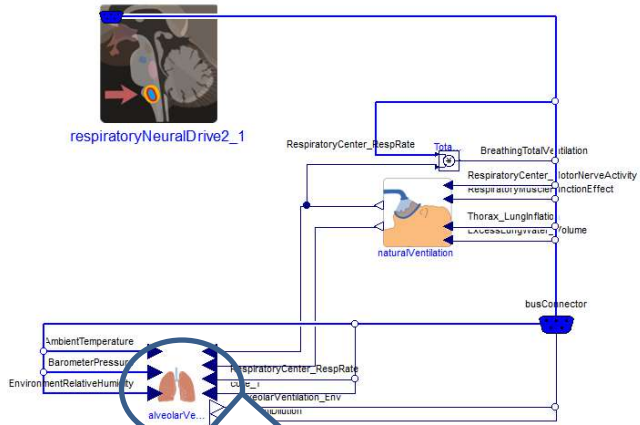




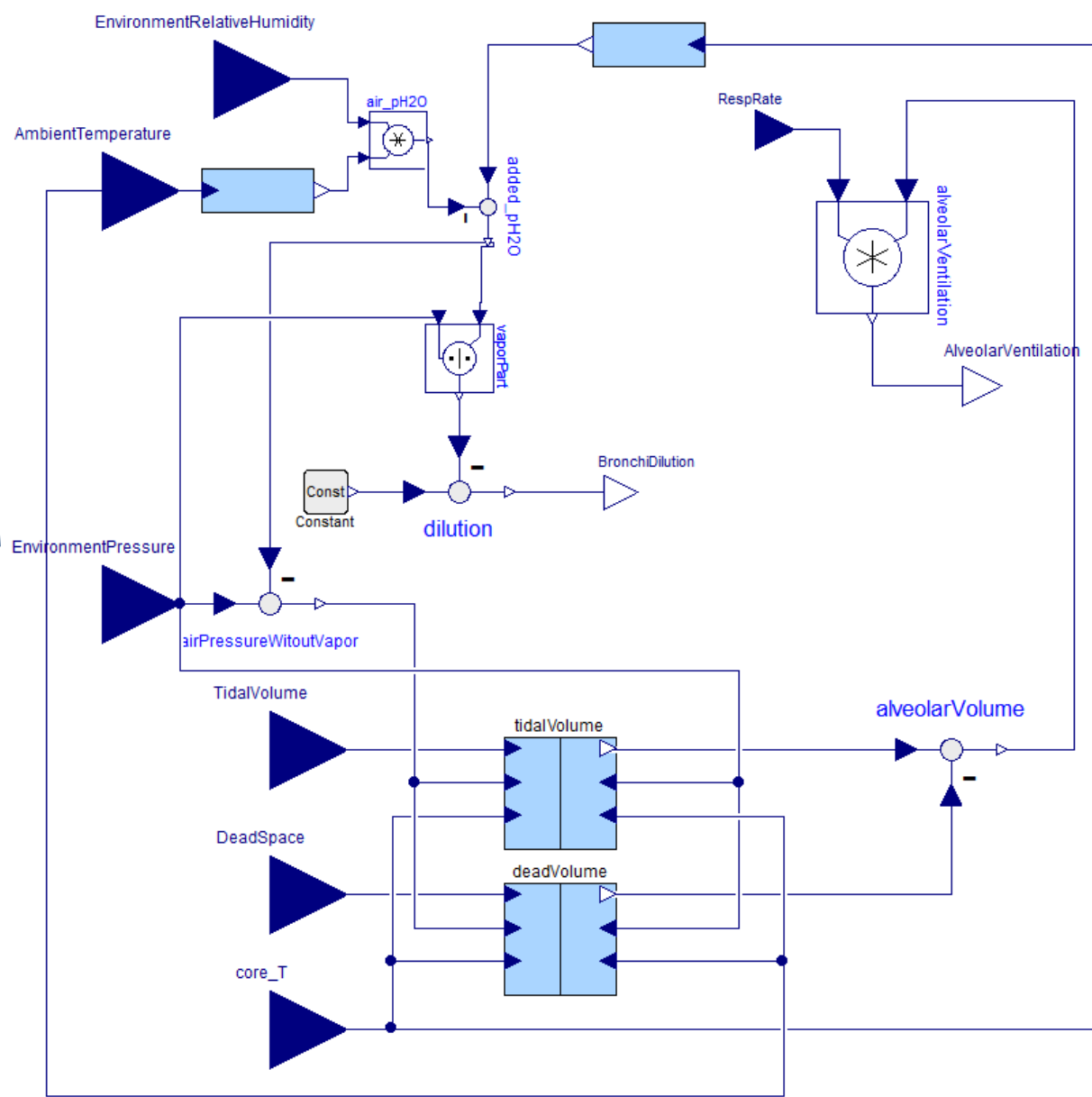
naturalVentilation

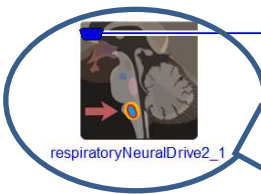
RespiratoryCenterOutput_MotorNerveActivity





alveolarVentilation

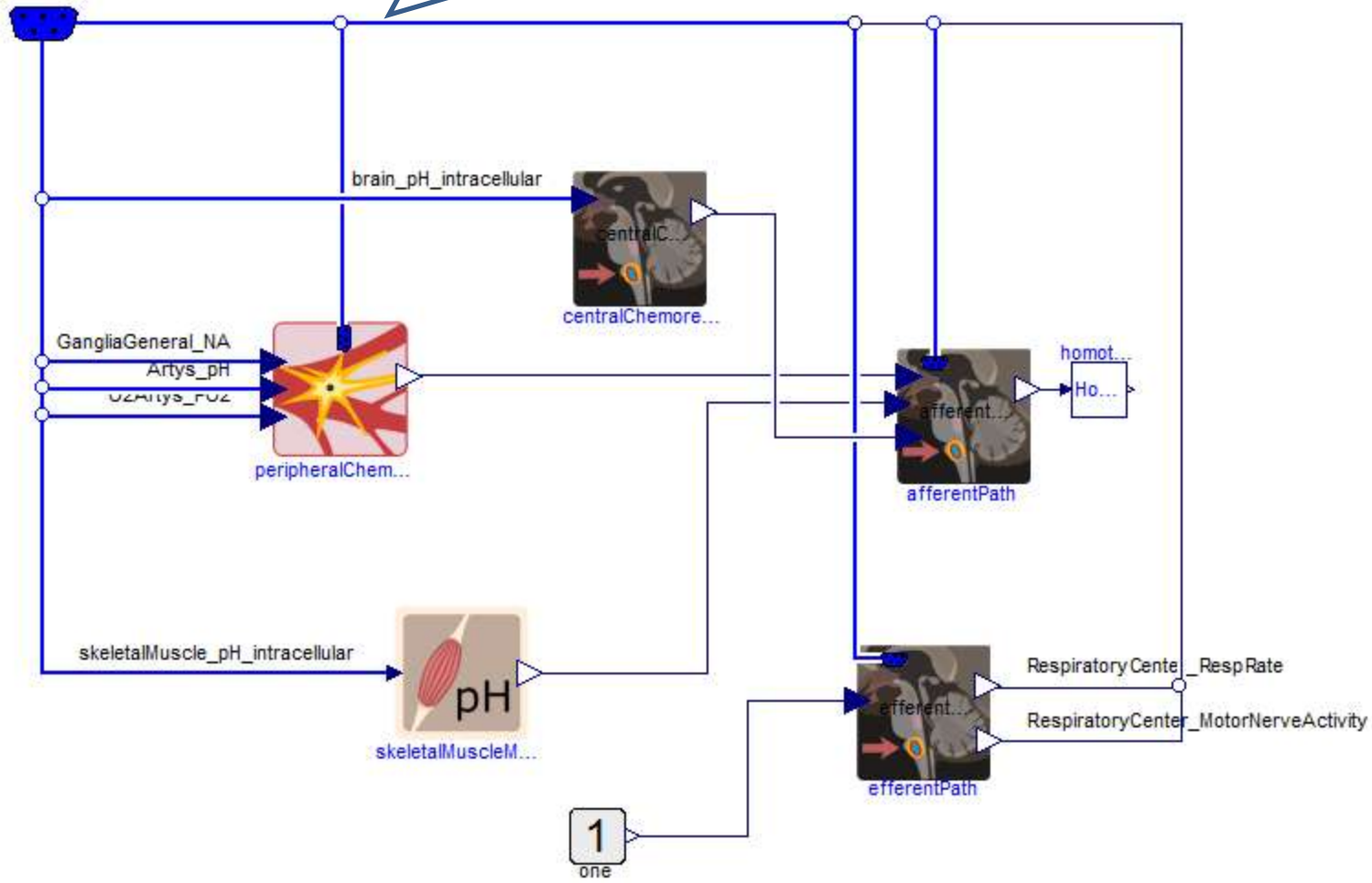


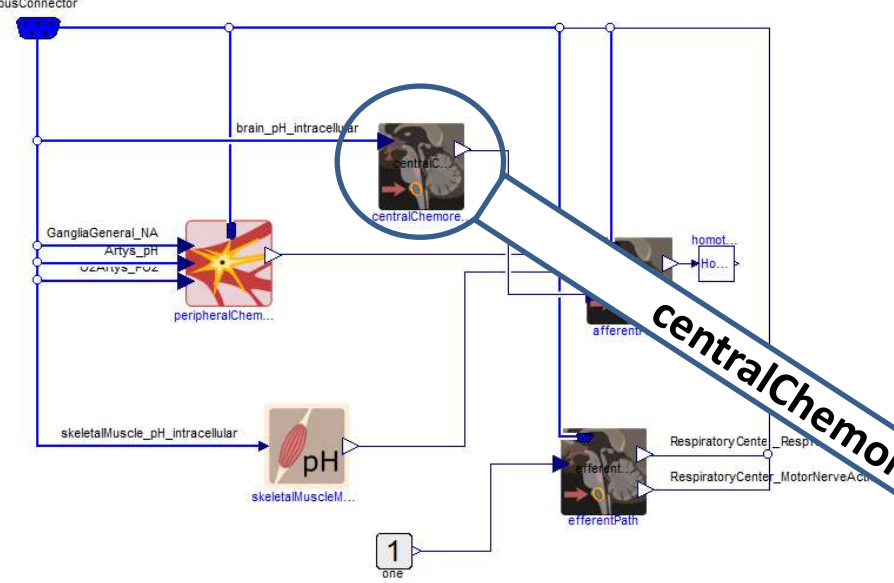


respiratoryNeuralDrive

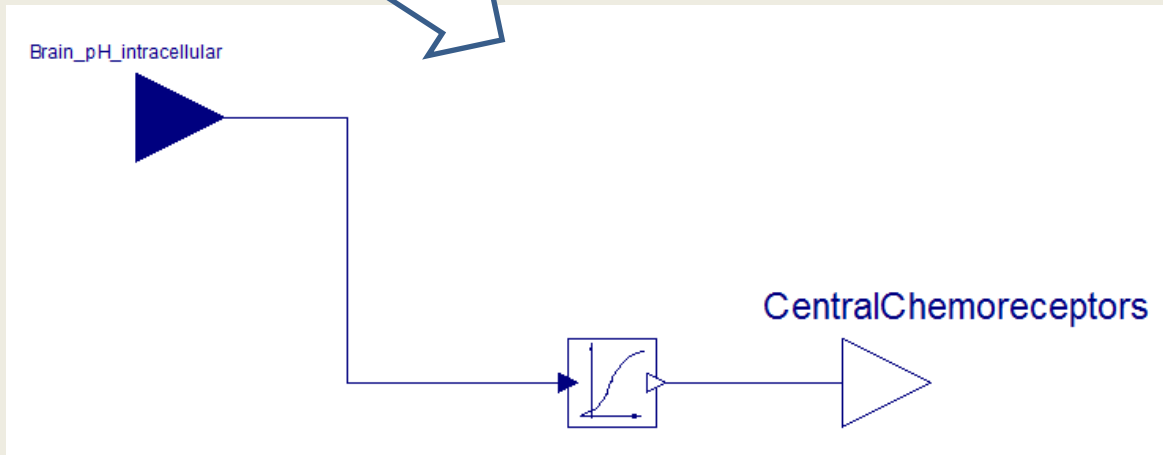


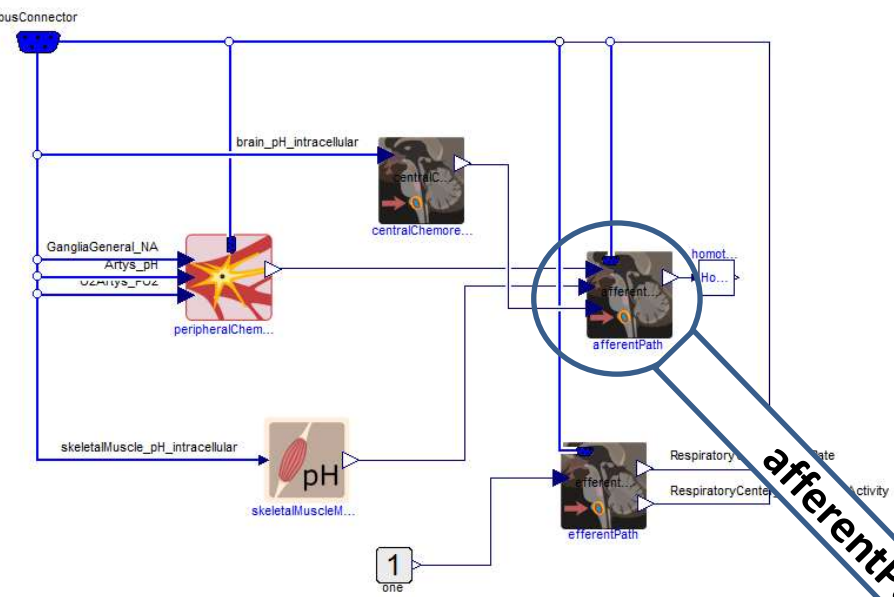
busConnector



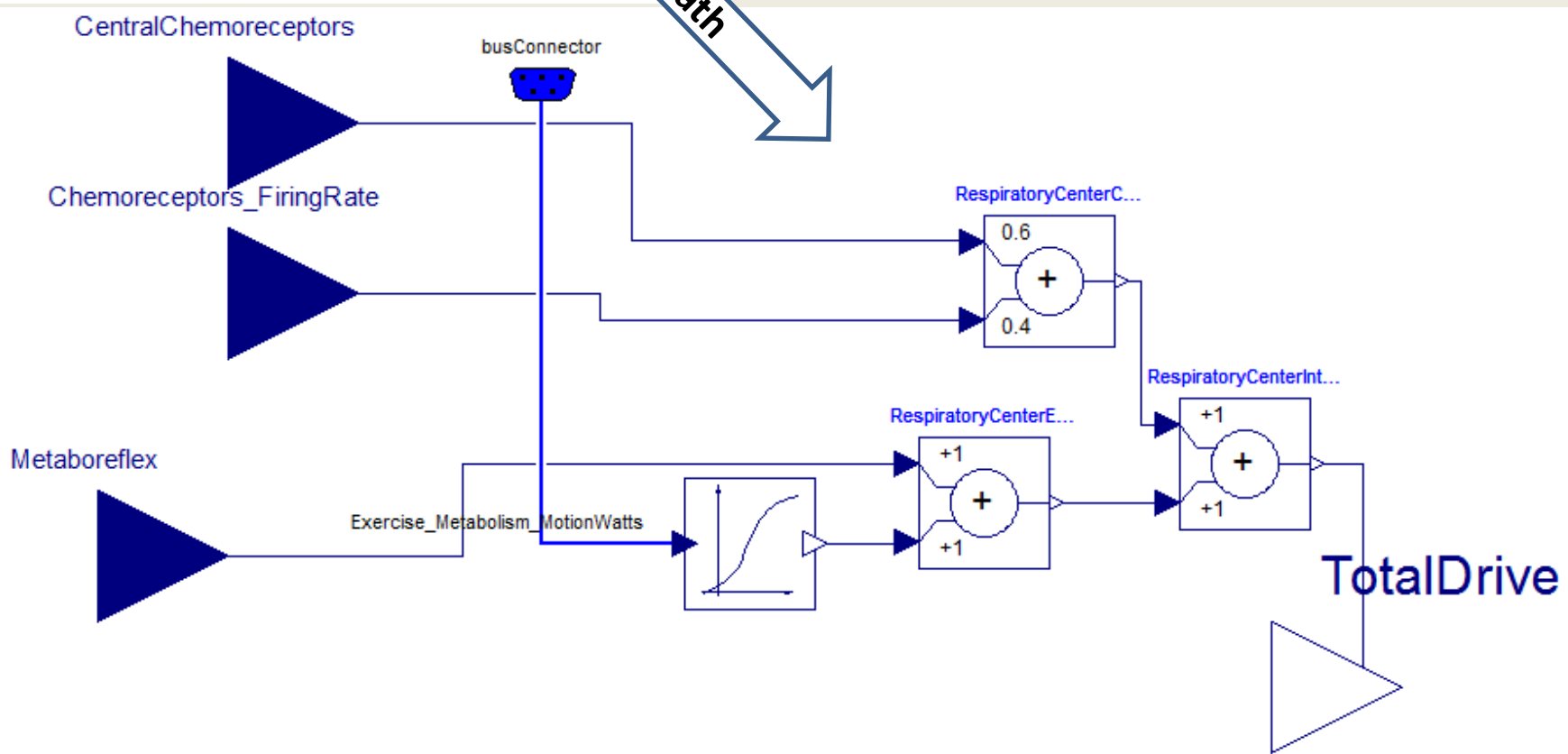


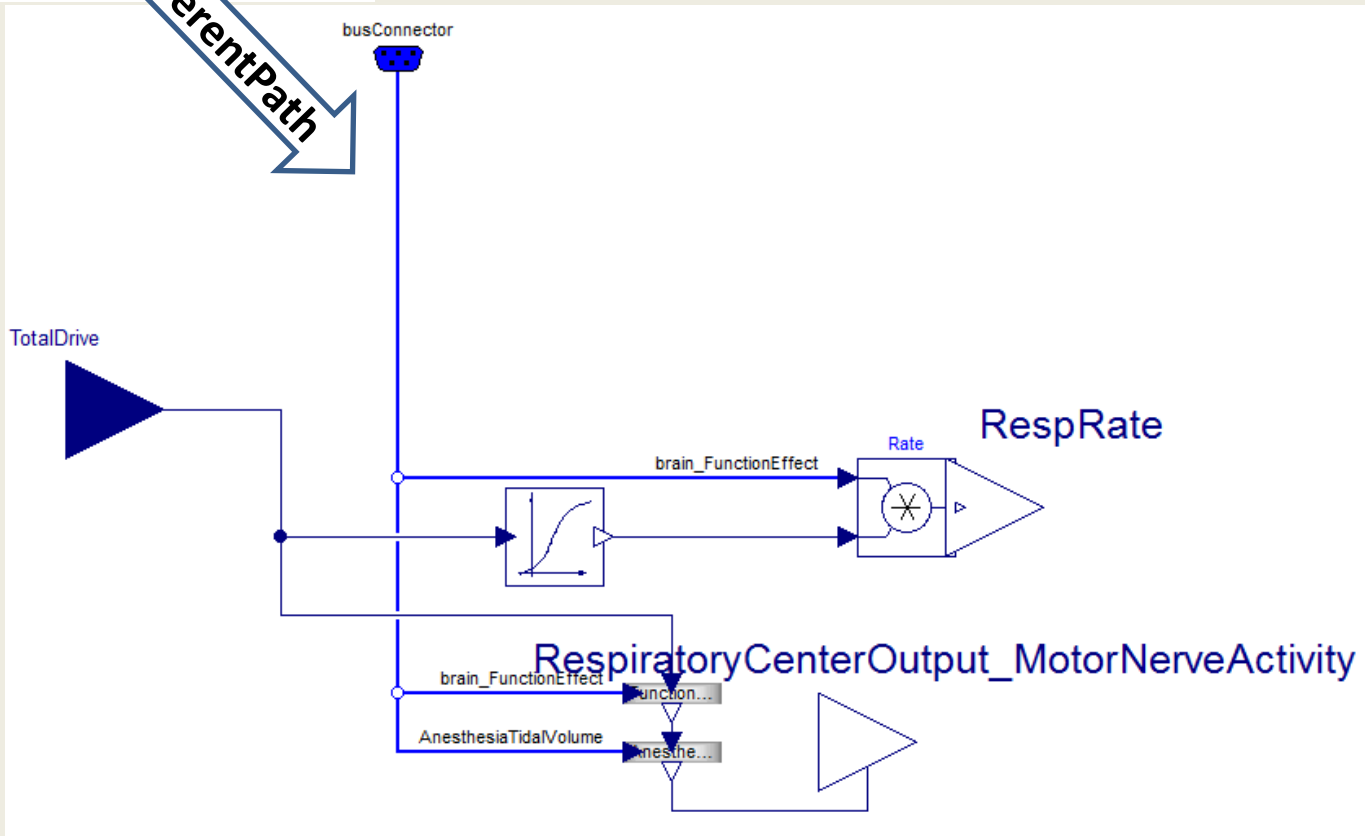
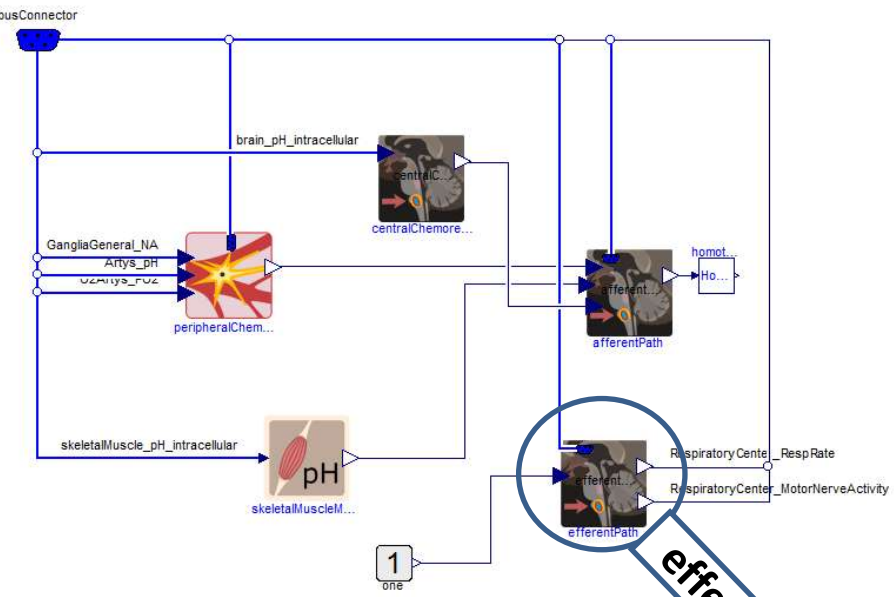
centralChemoreceptor

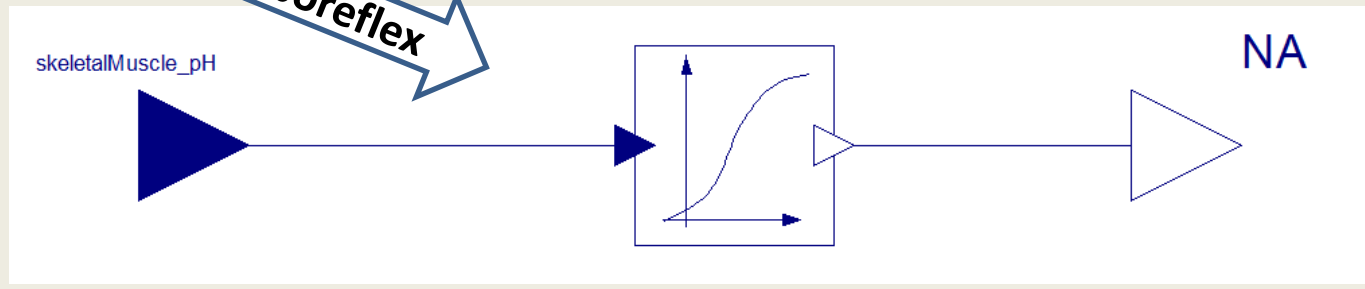
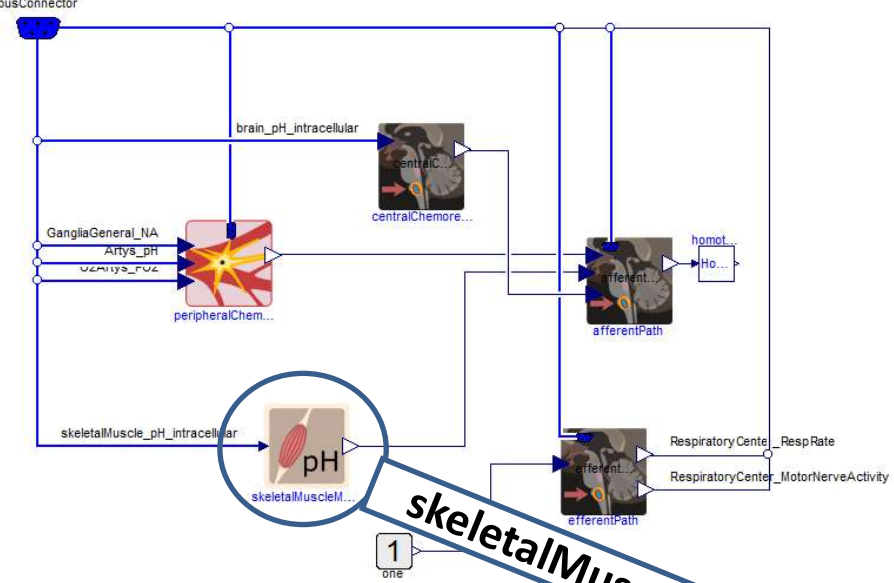


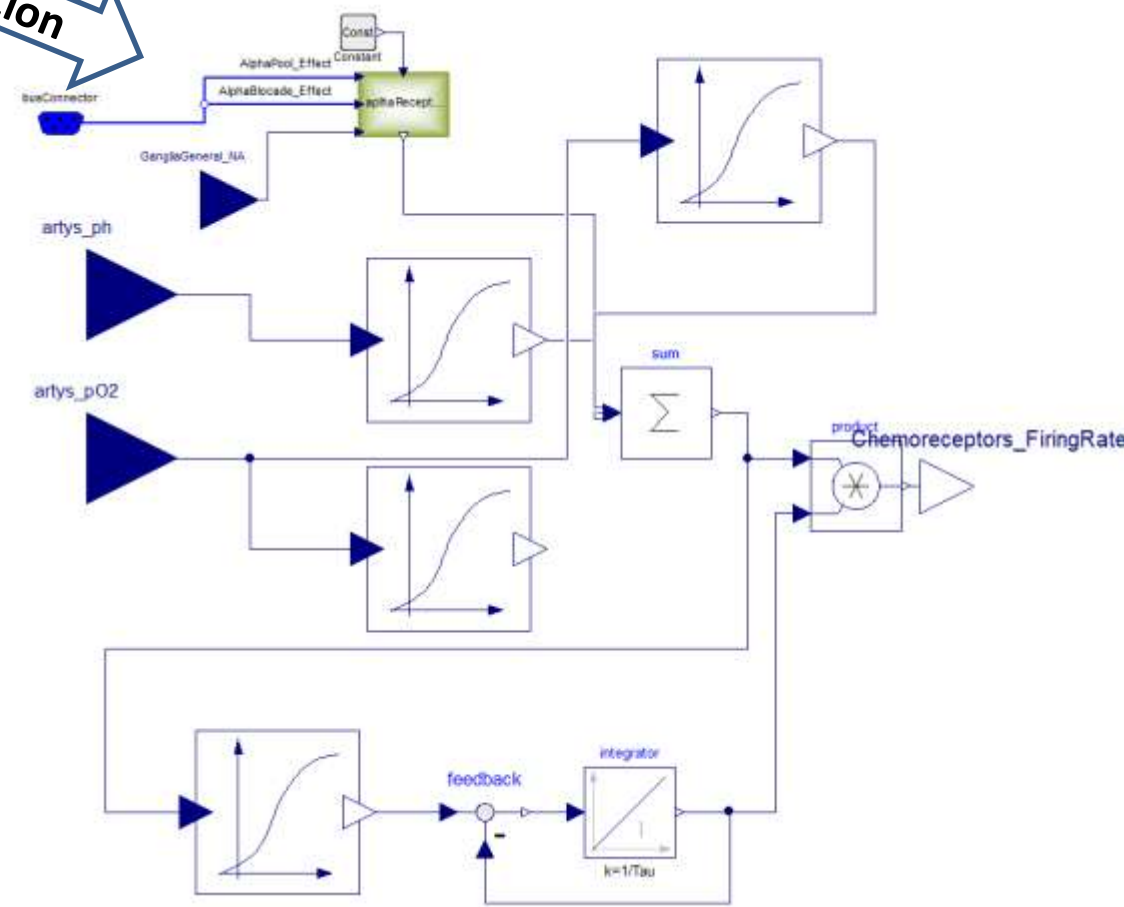
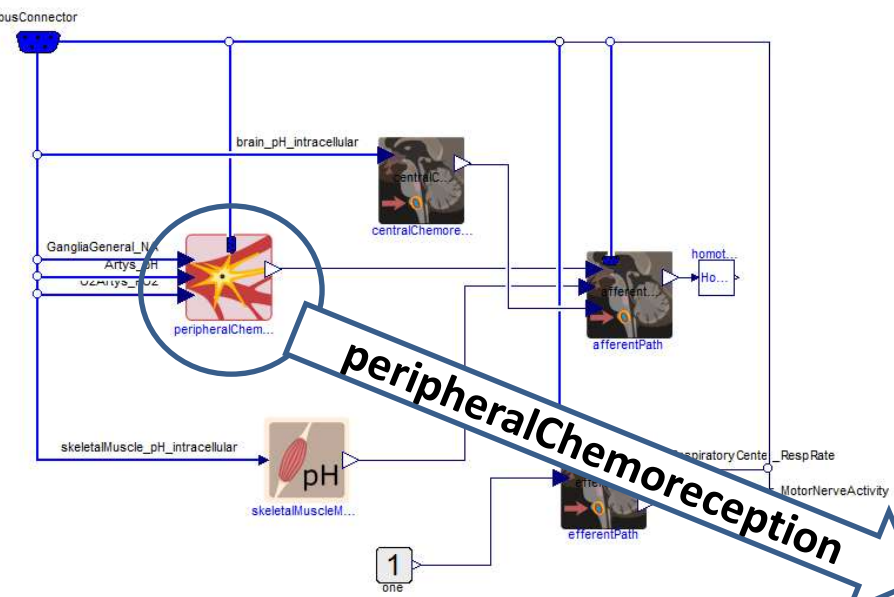


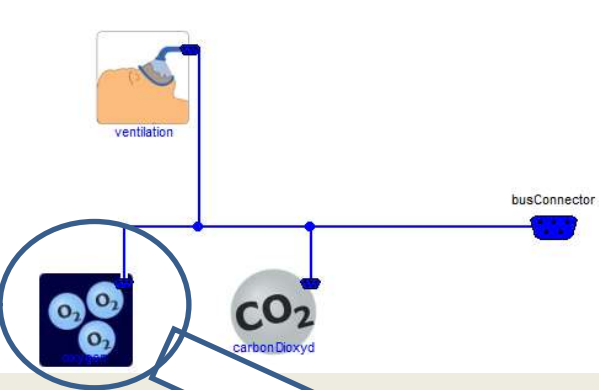
afferentPath



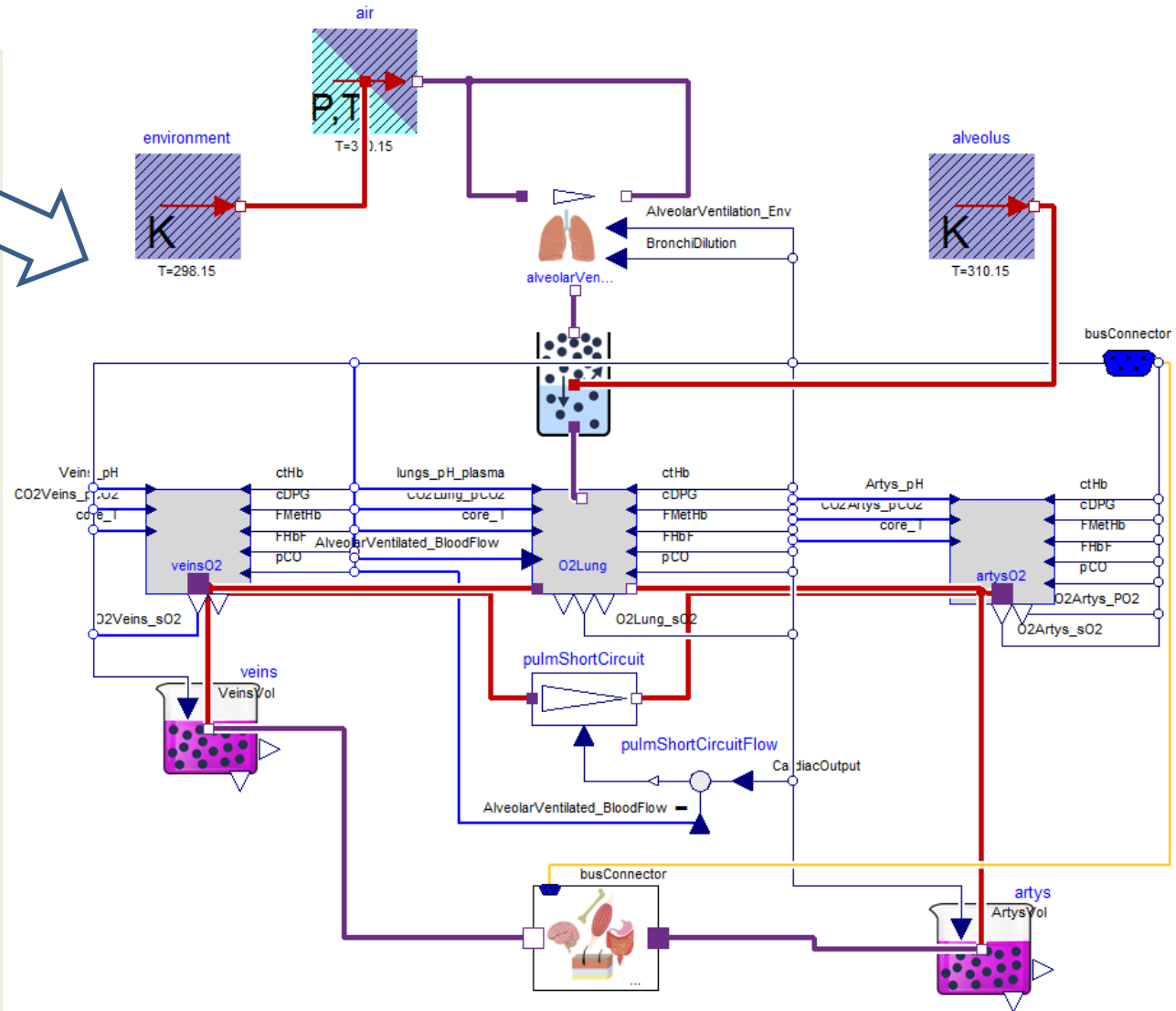


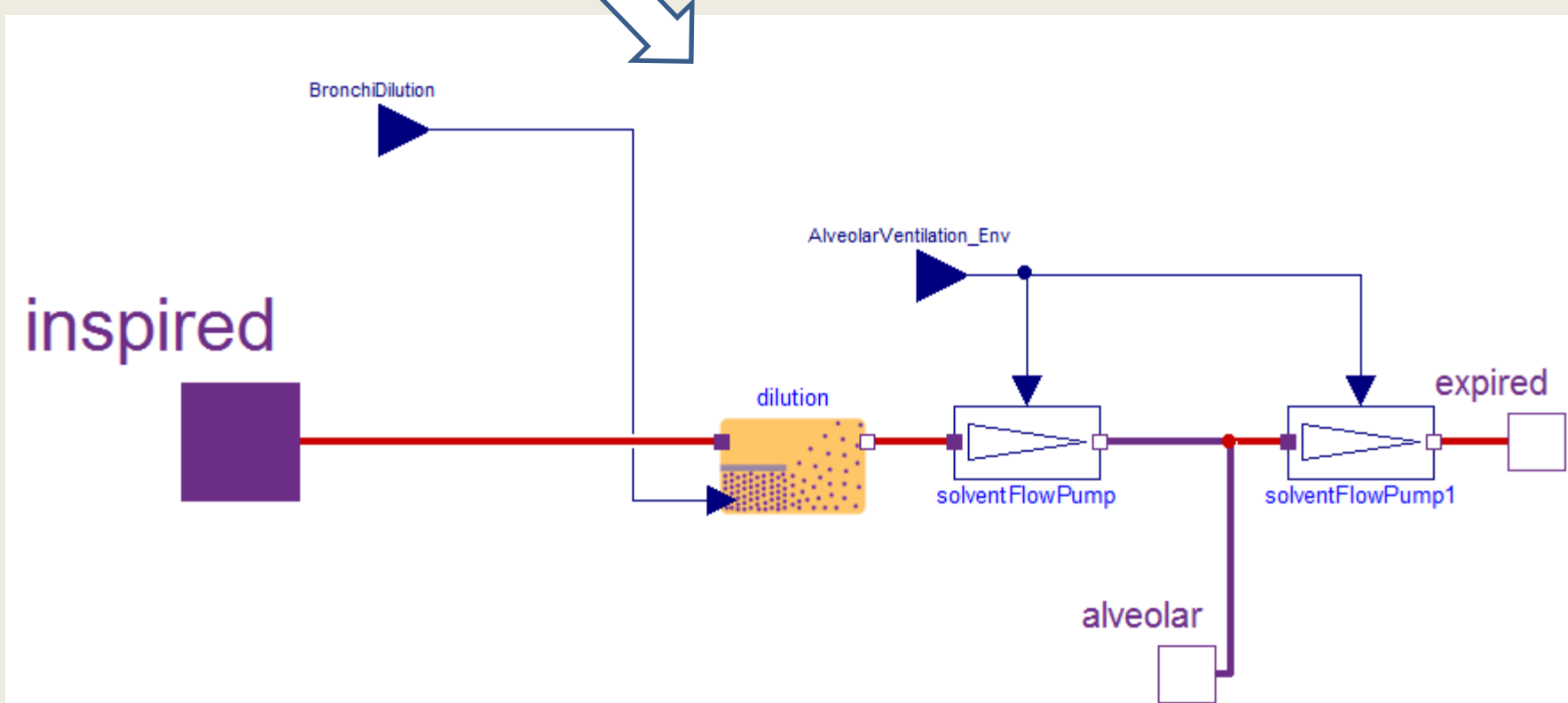
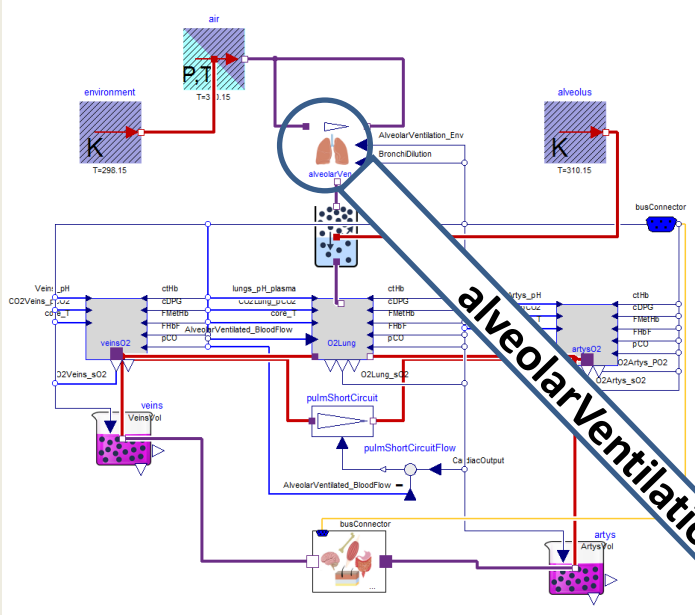


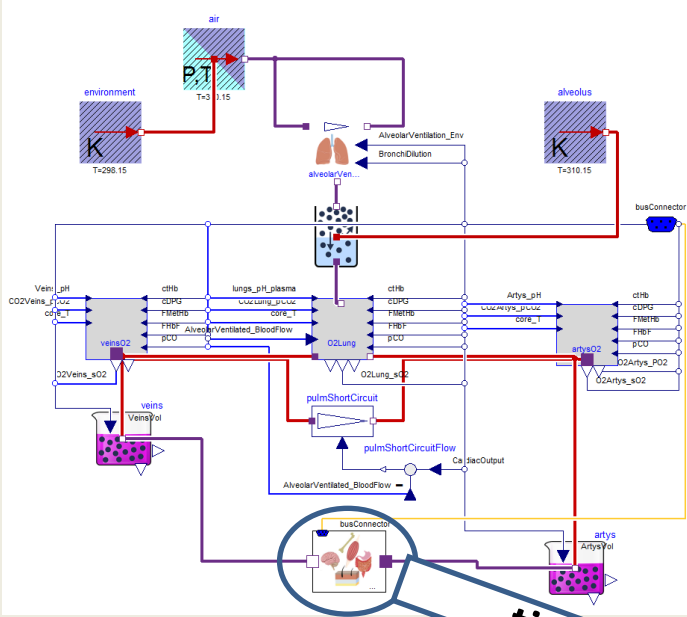




oxygen

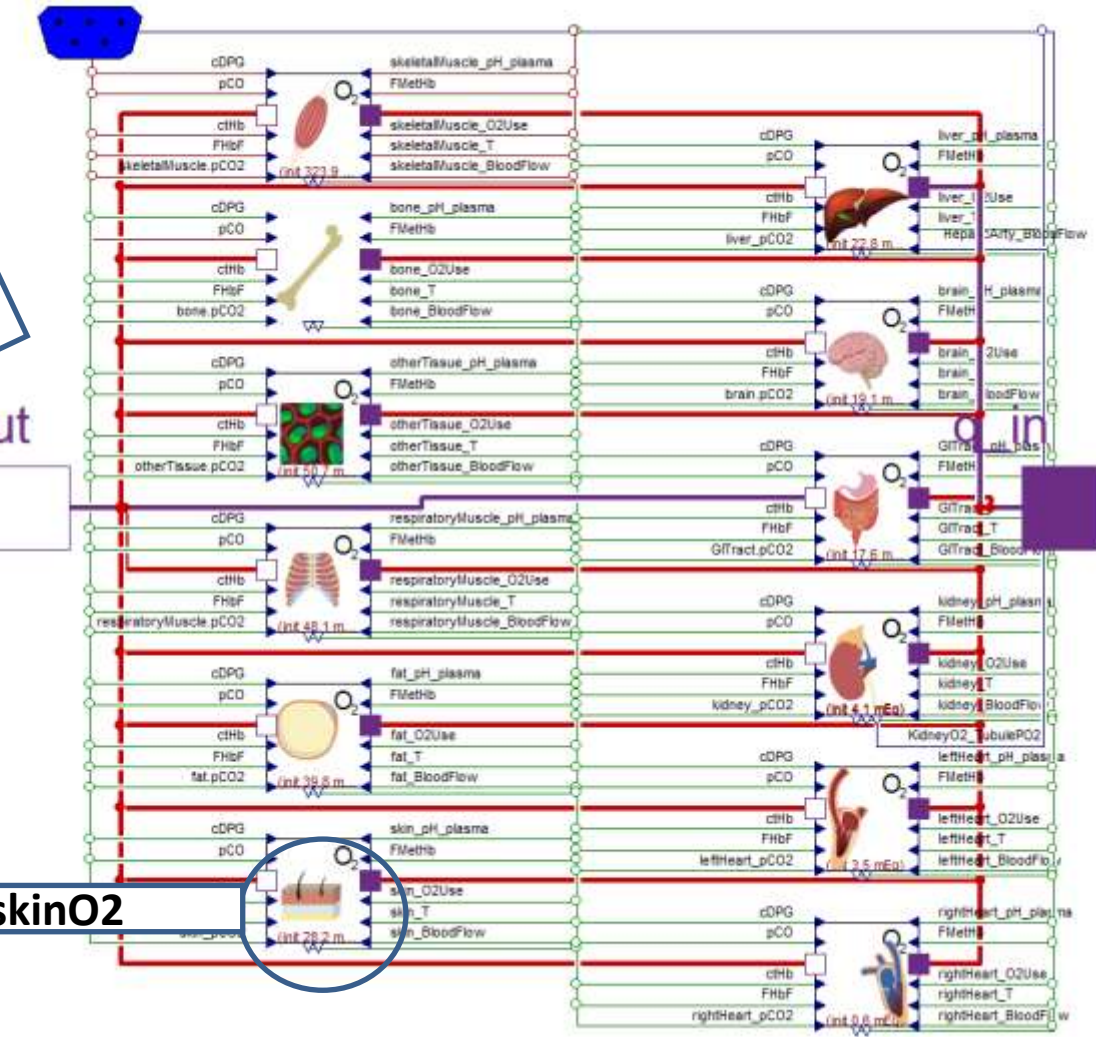






tissuesO2

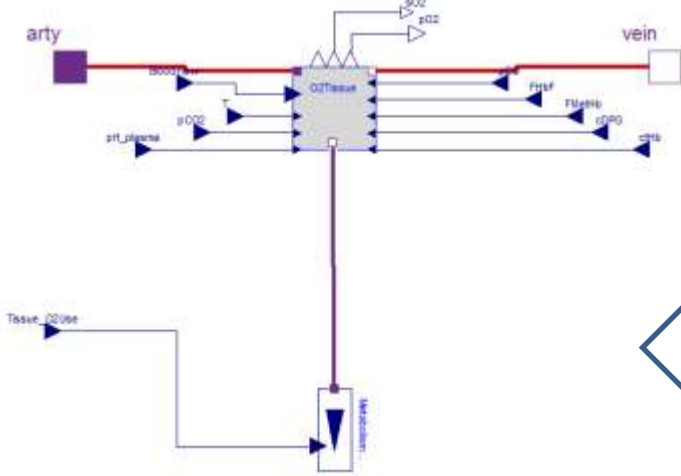
busConnector



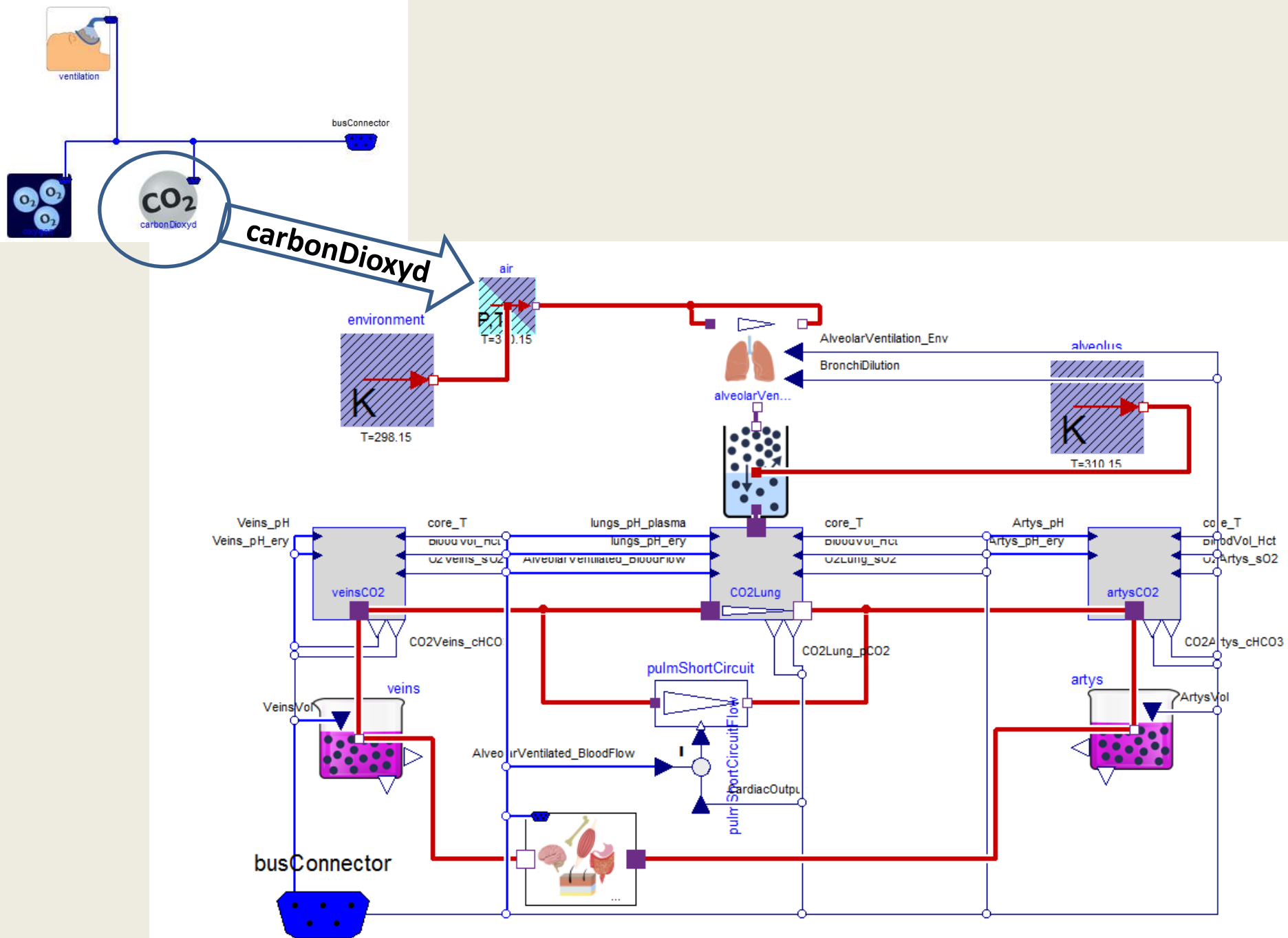
q_out

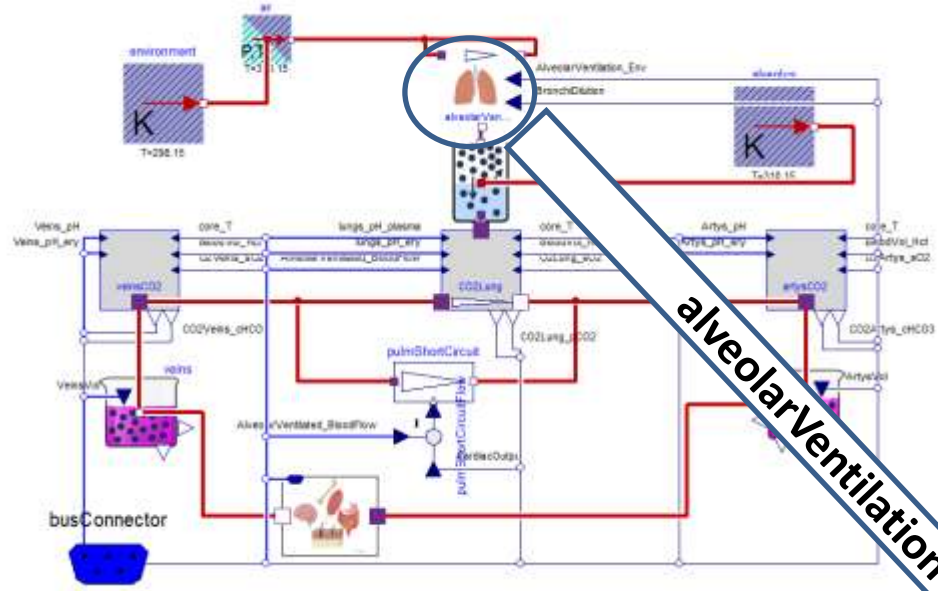
q_in

The instances of the same class with different parameters

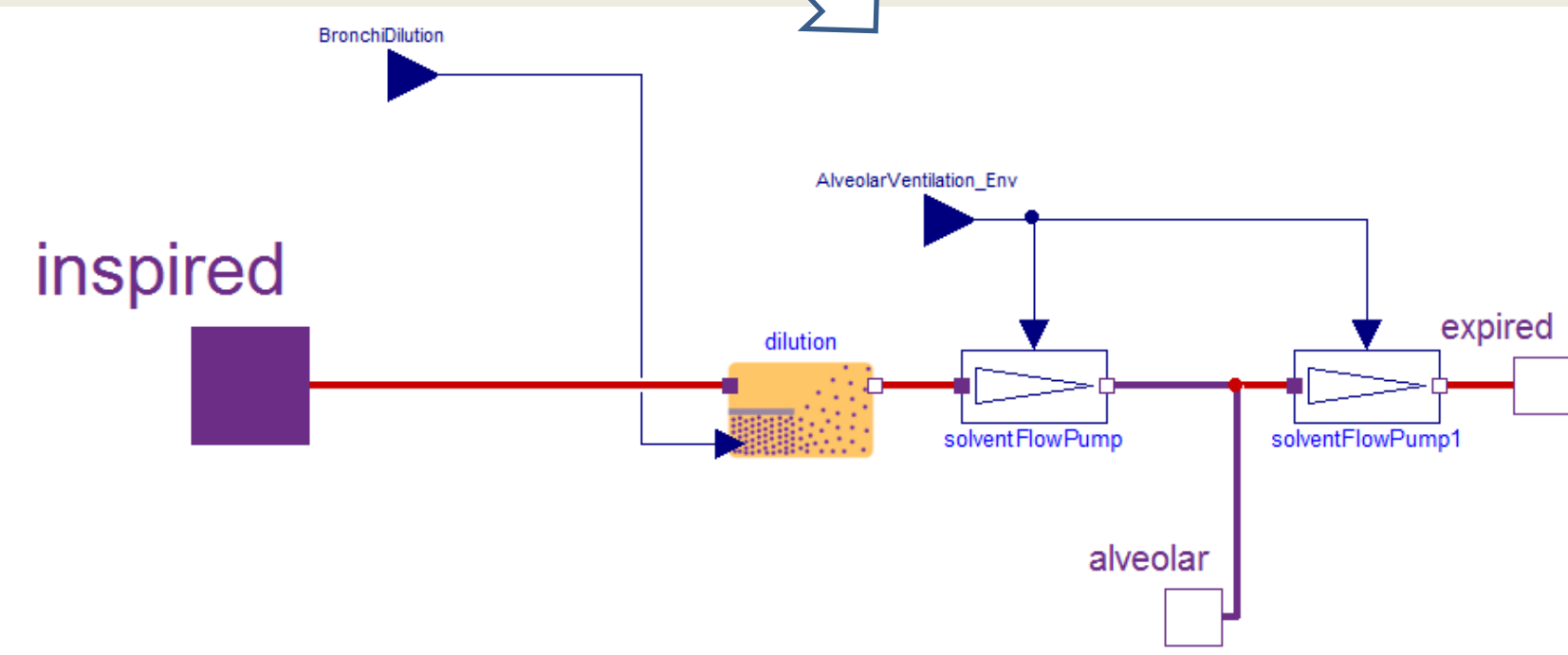


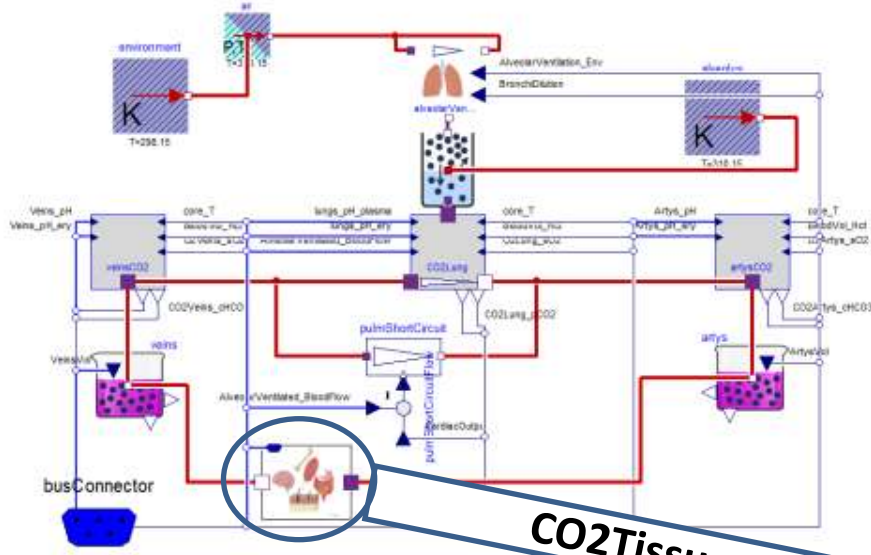
skinO2





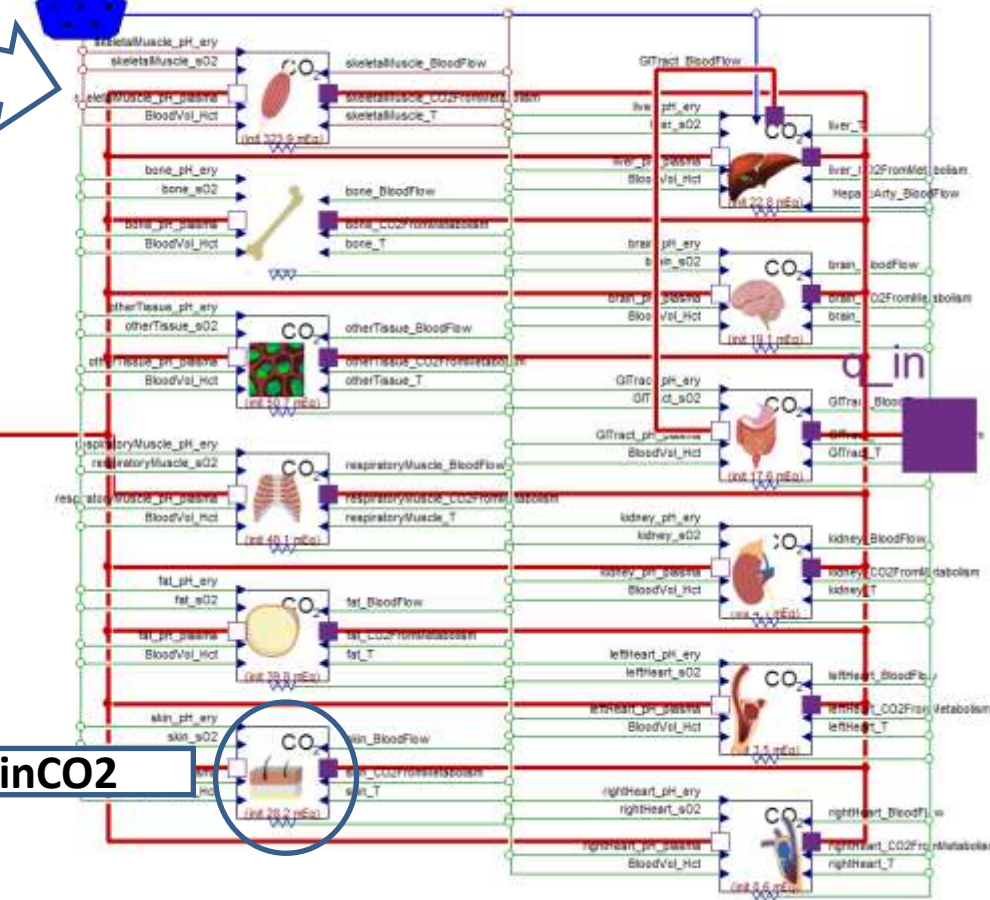
alveolarVentilation





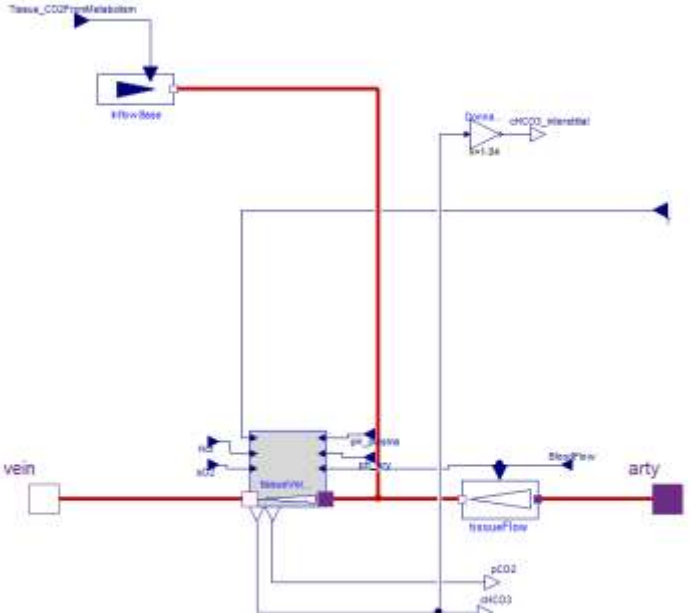
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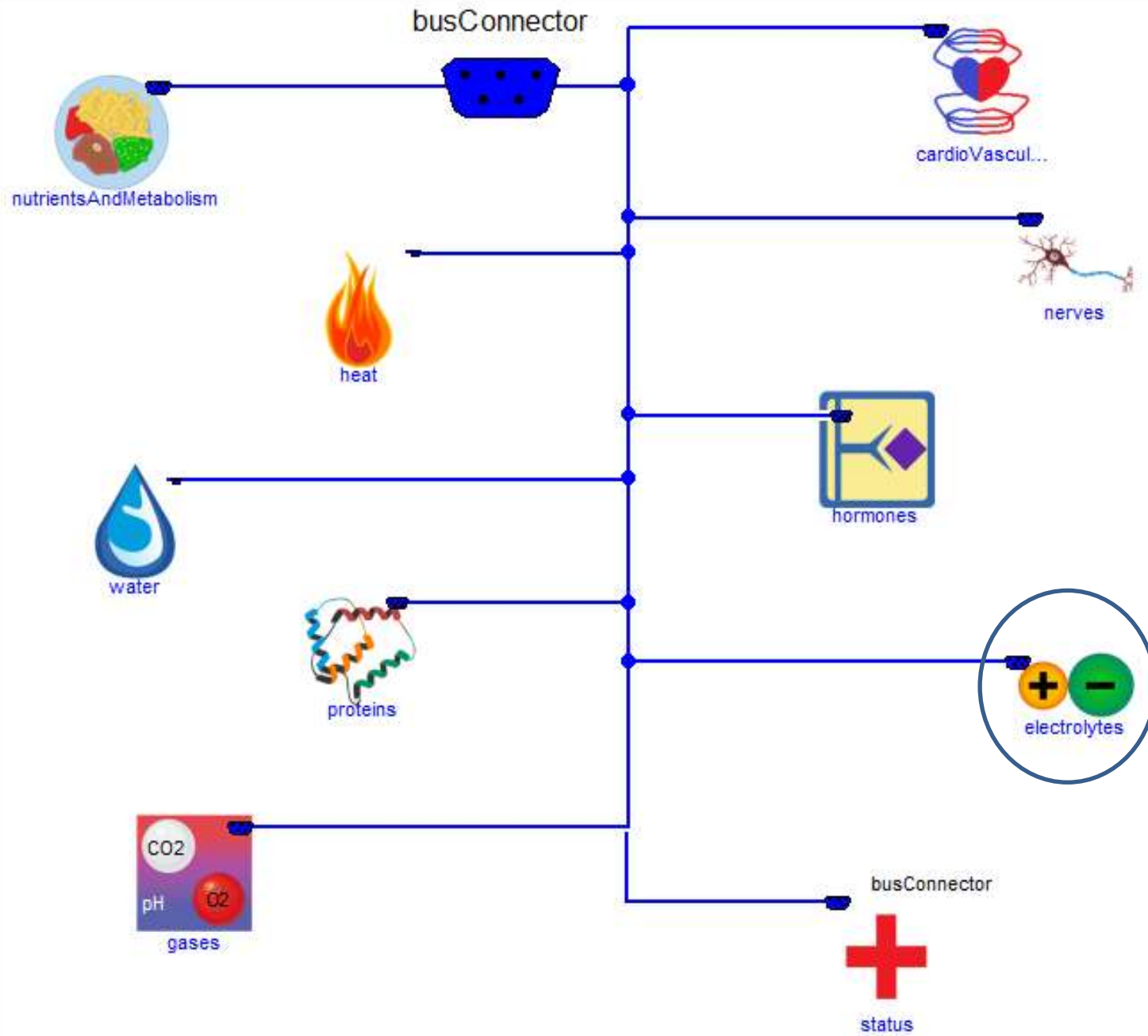
busConnector

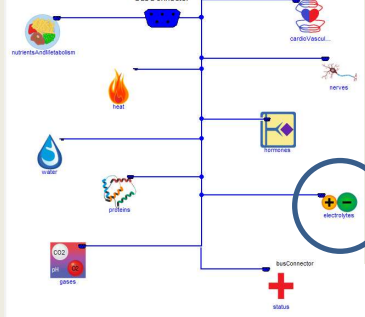


skinCO2

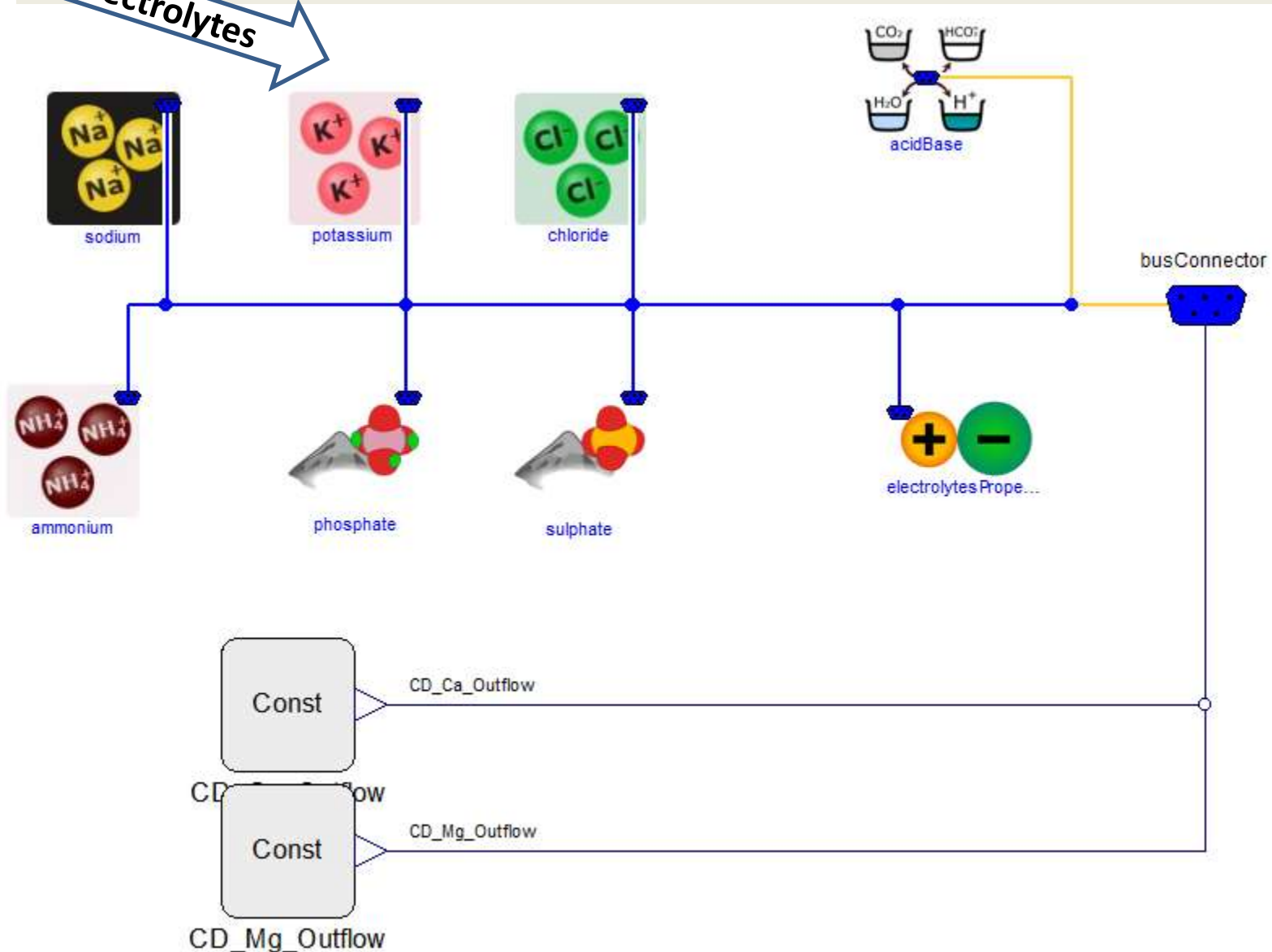
The instances of the same class with different parameters

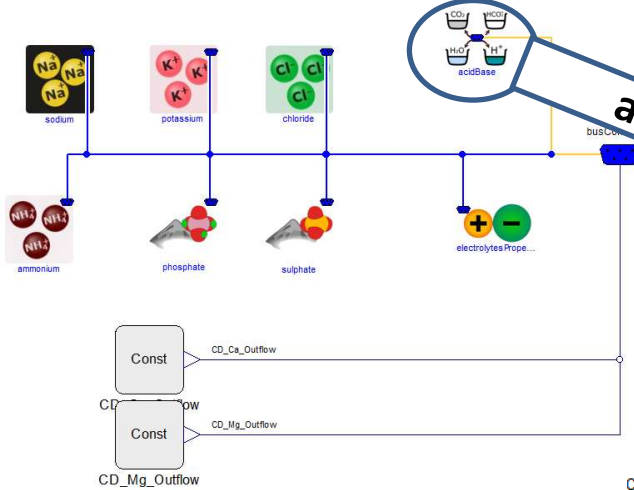






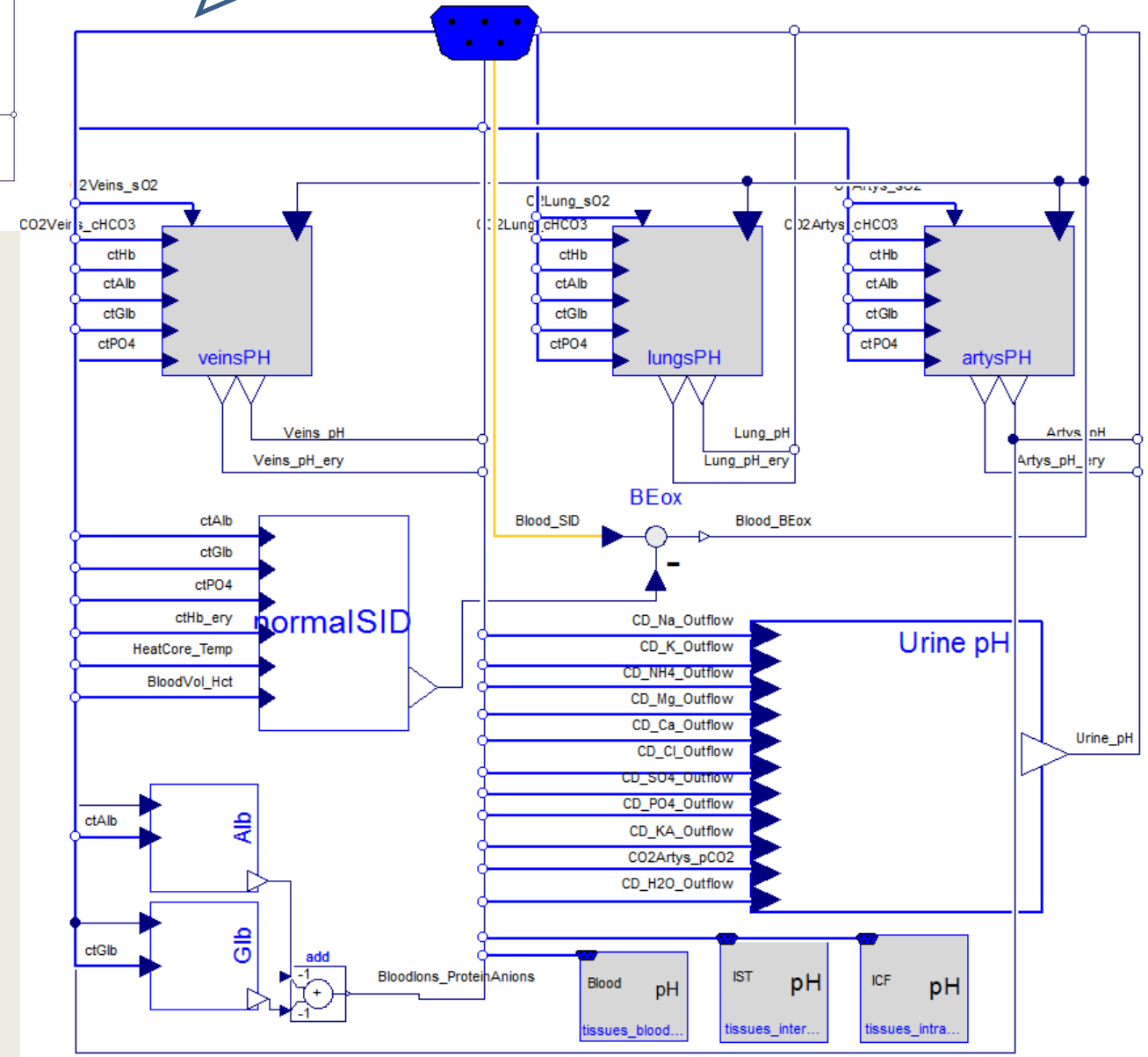
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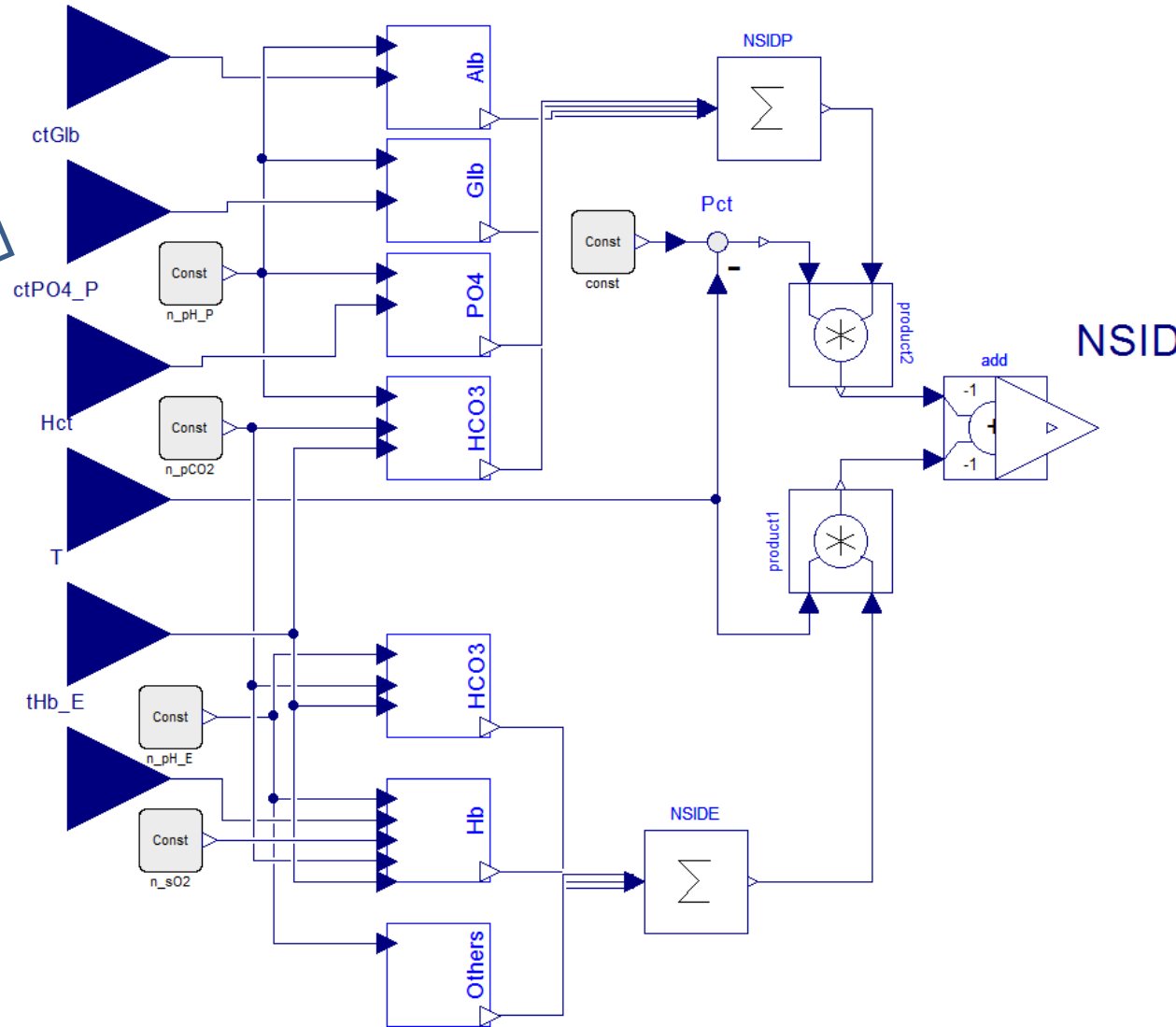
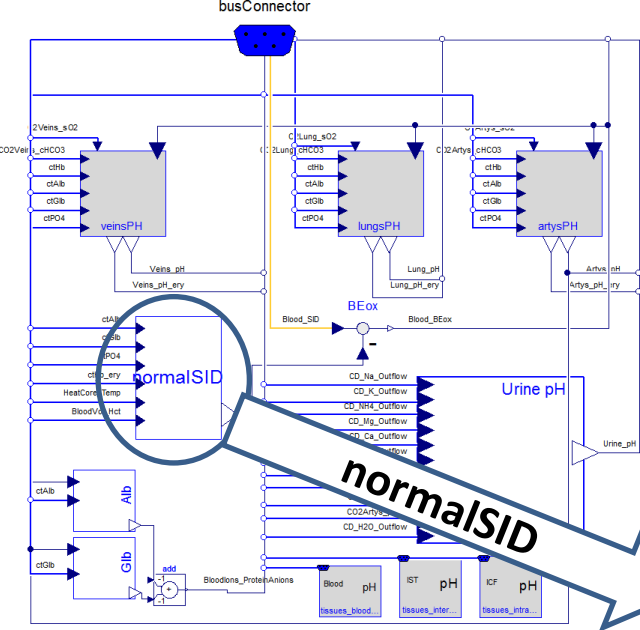


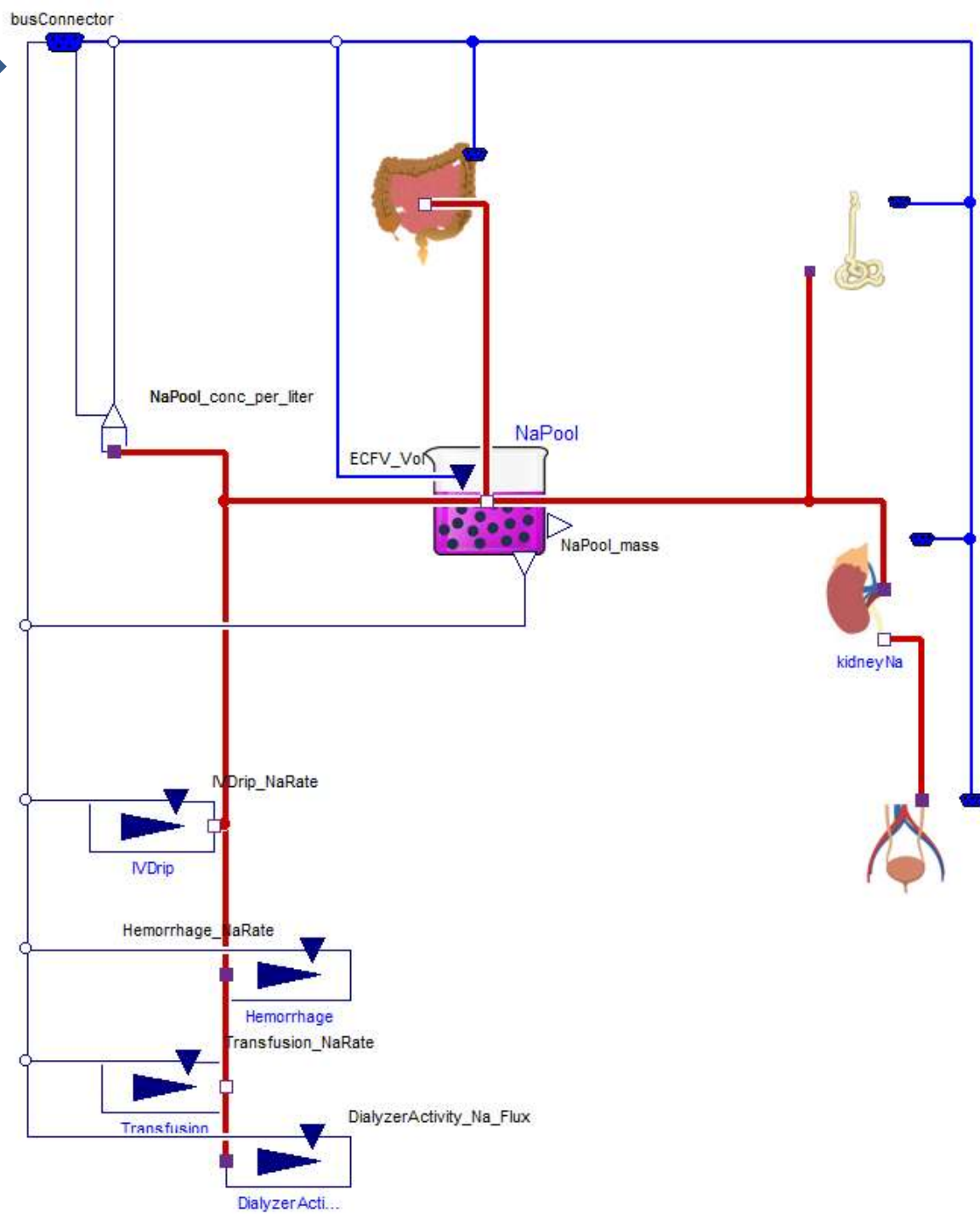
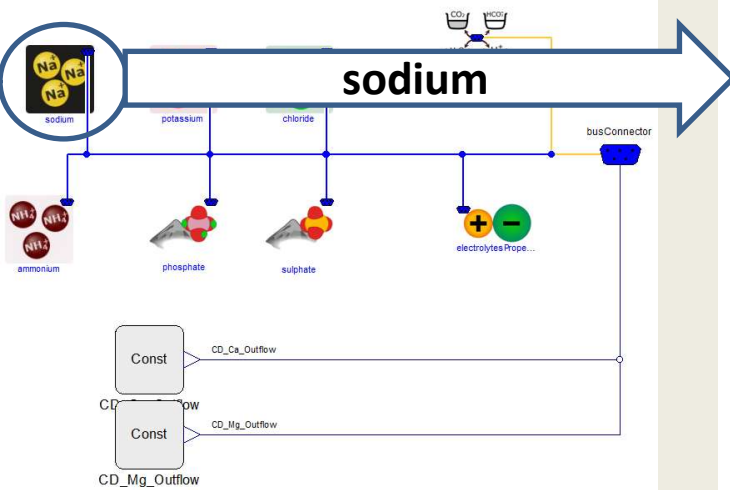


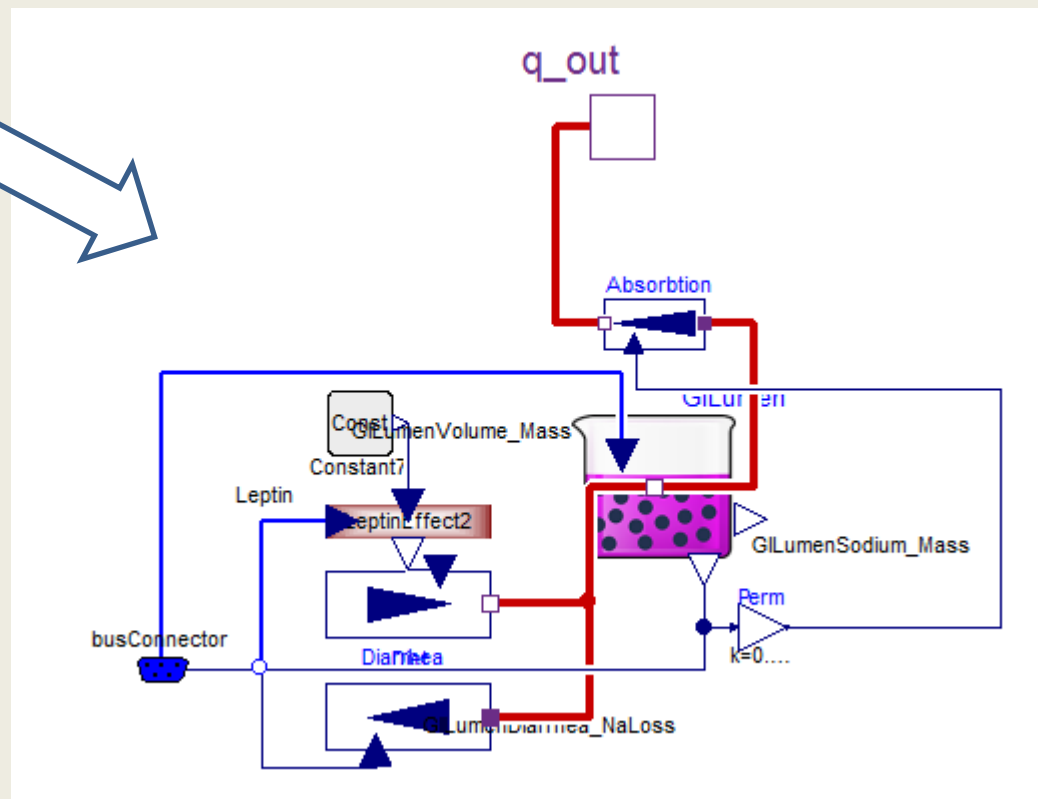
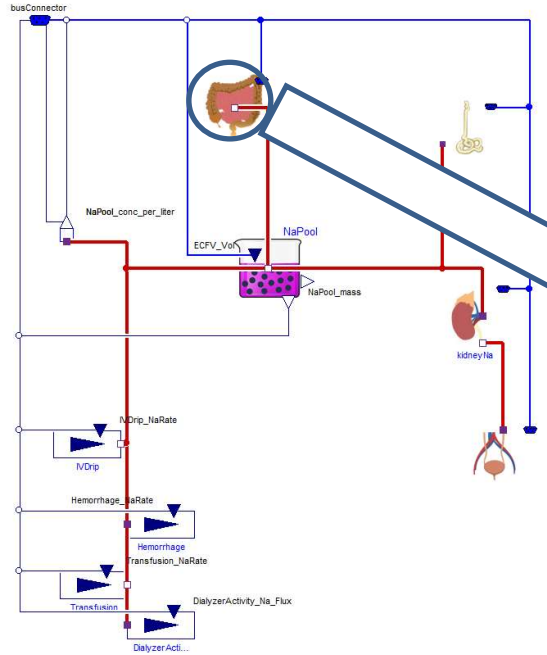
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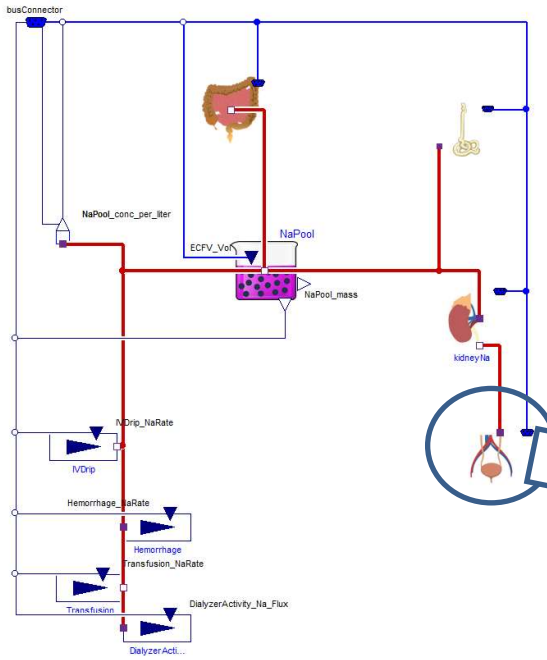
busConnector



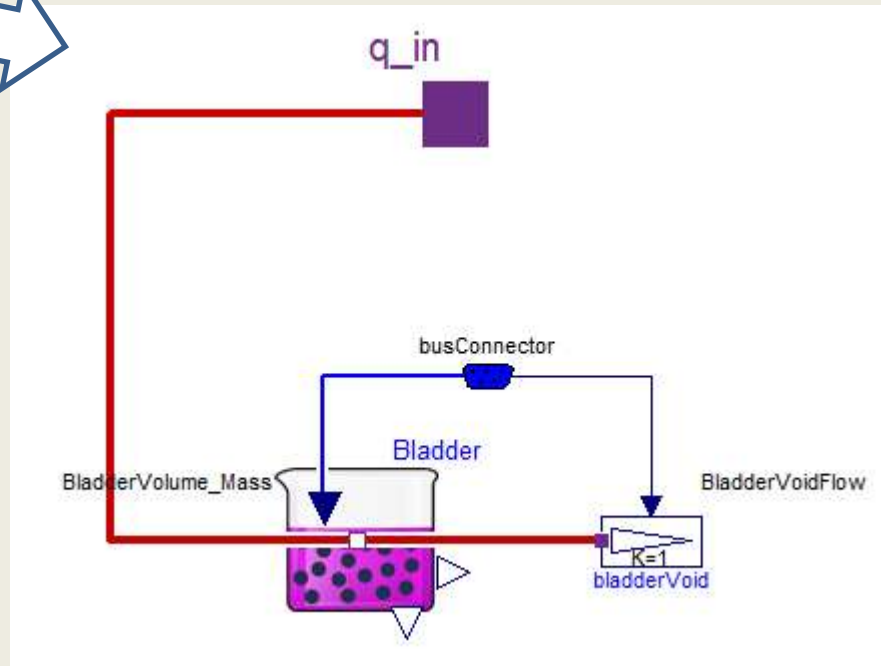


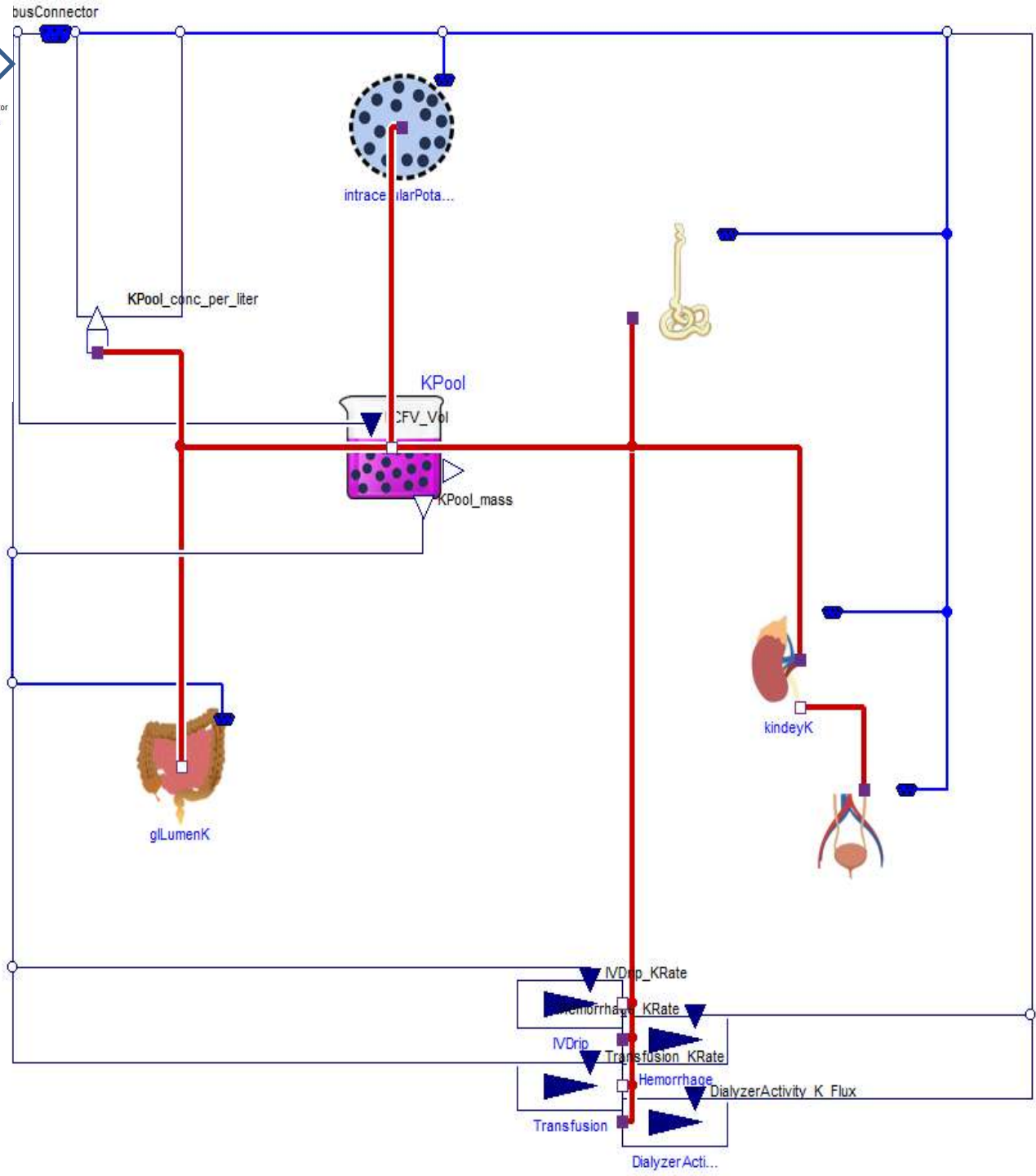
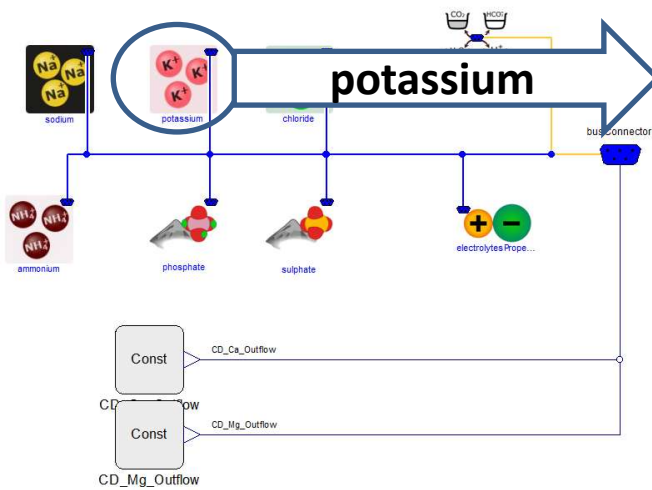


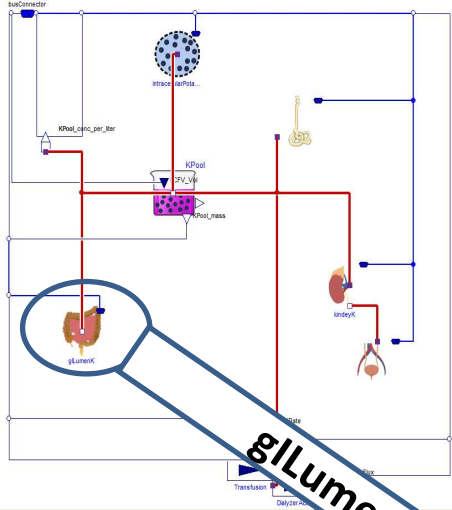




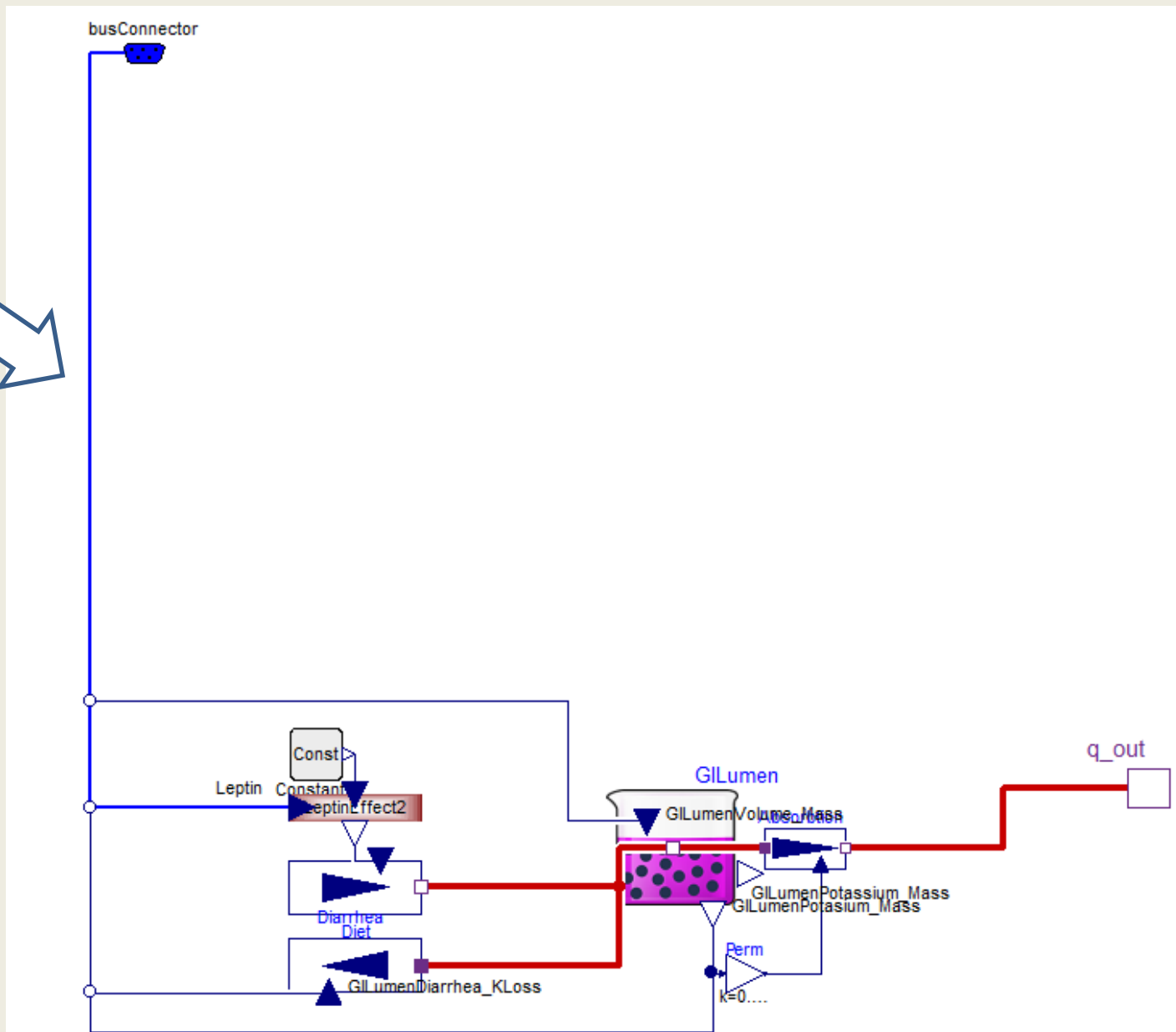
bladder

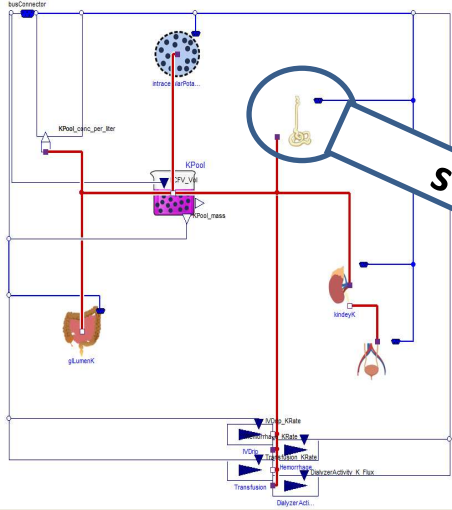






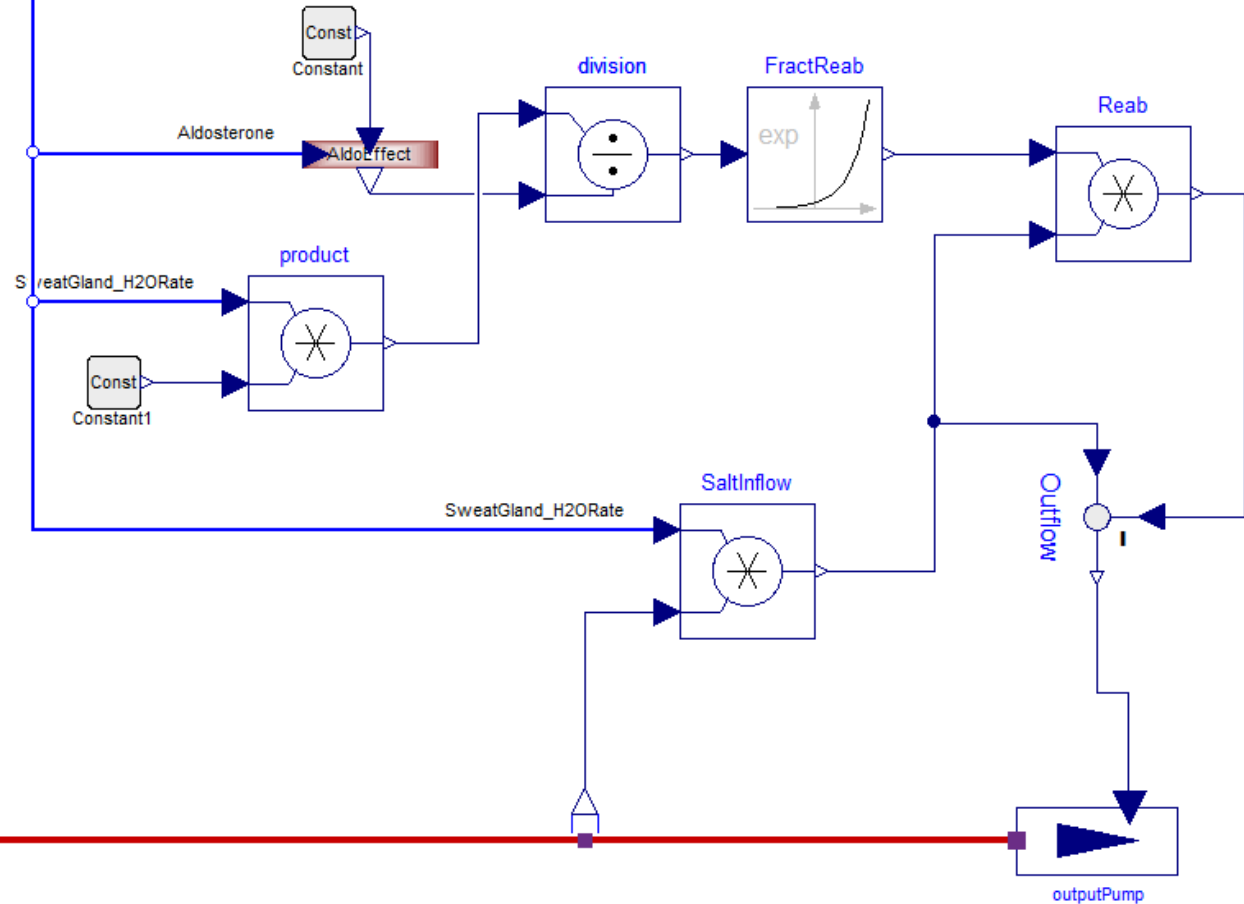
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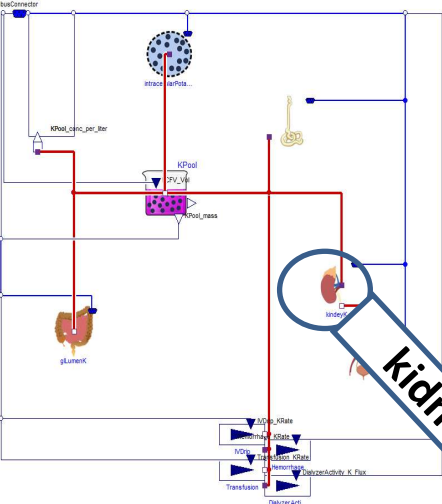




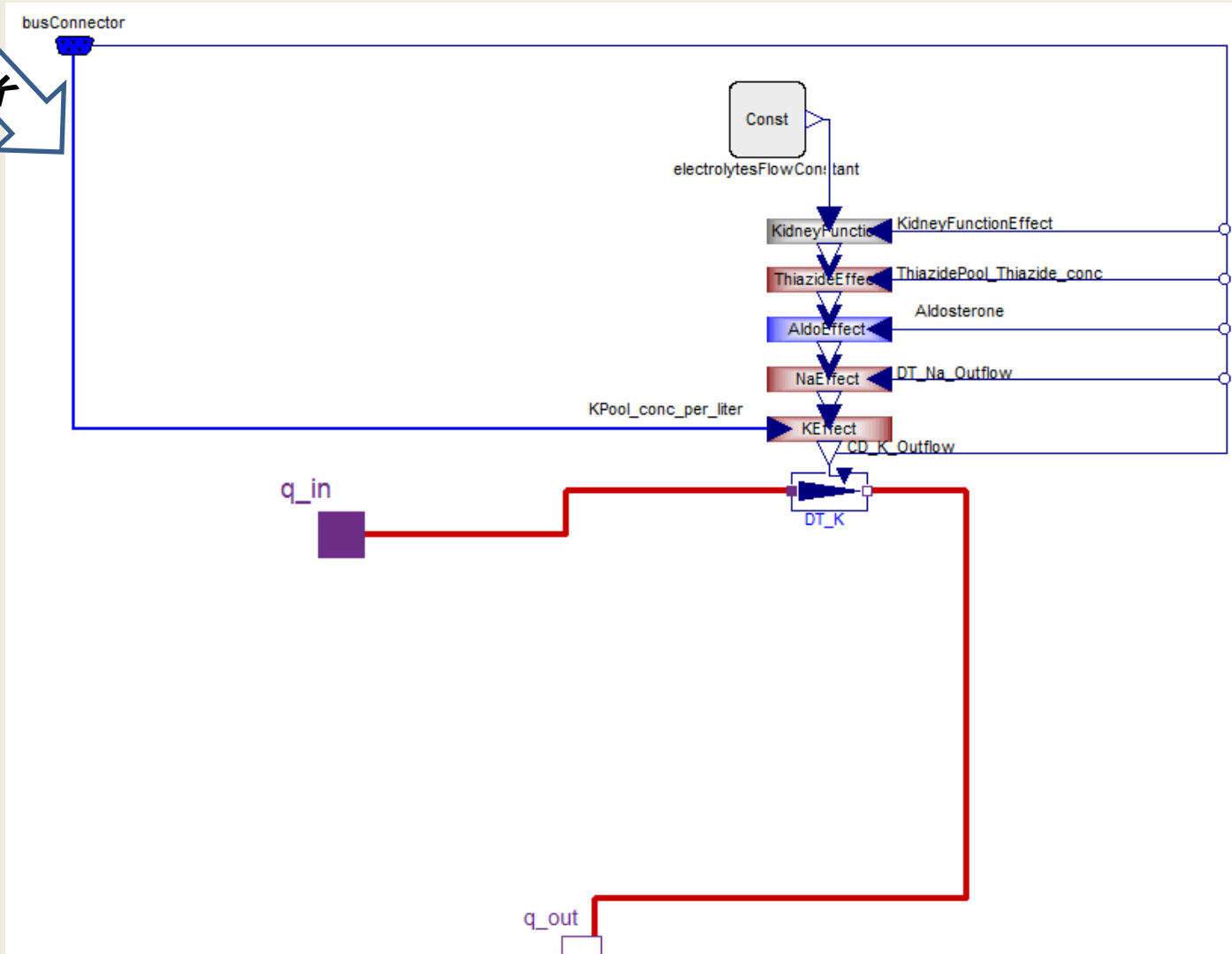
sweatGlandSalt

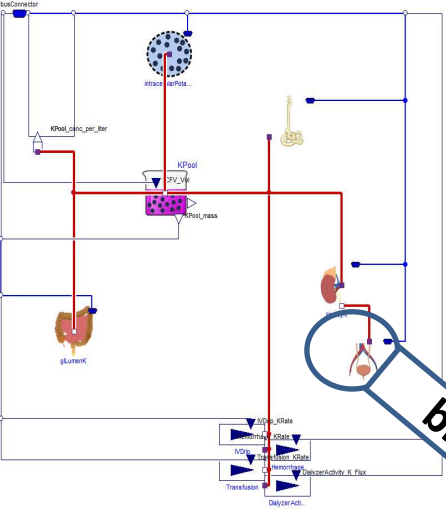
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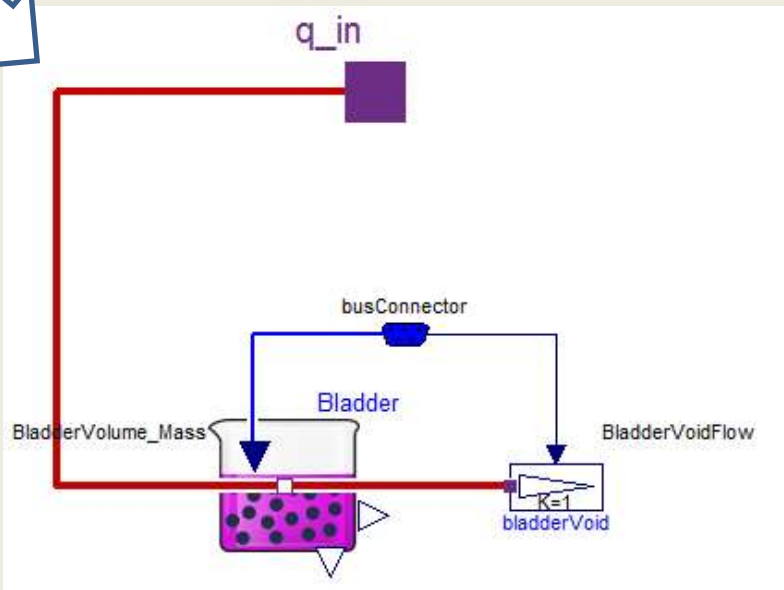


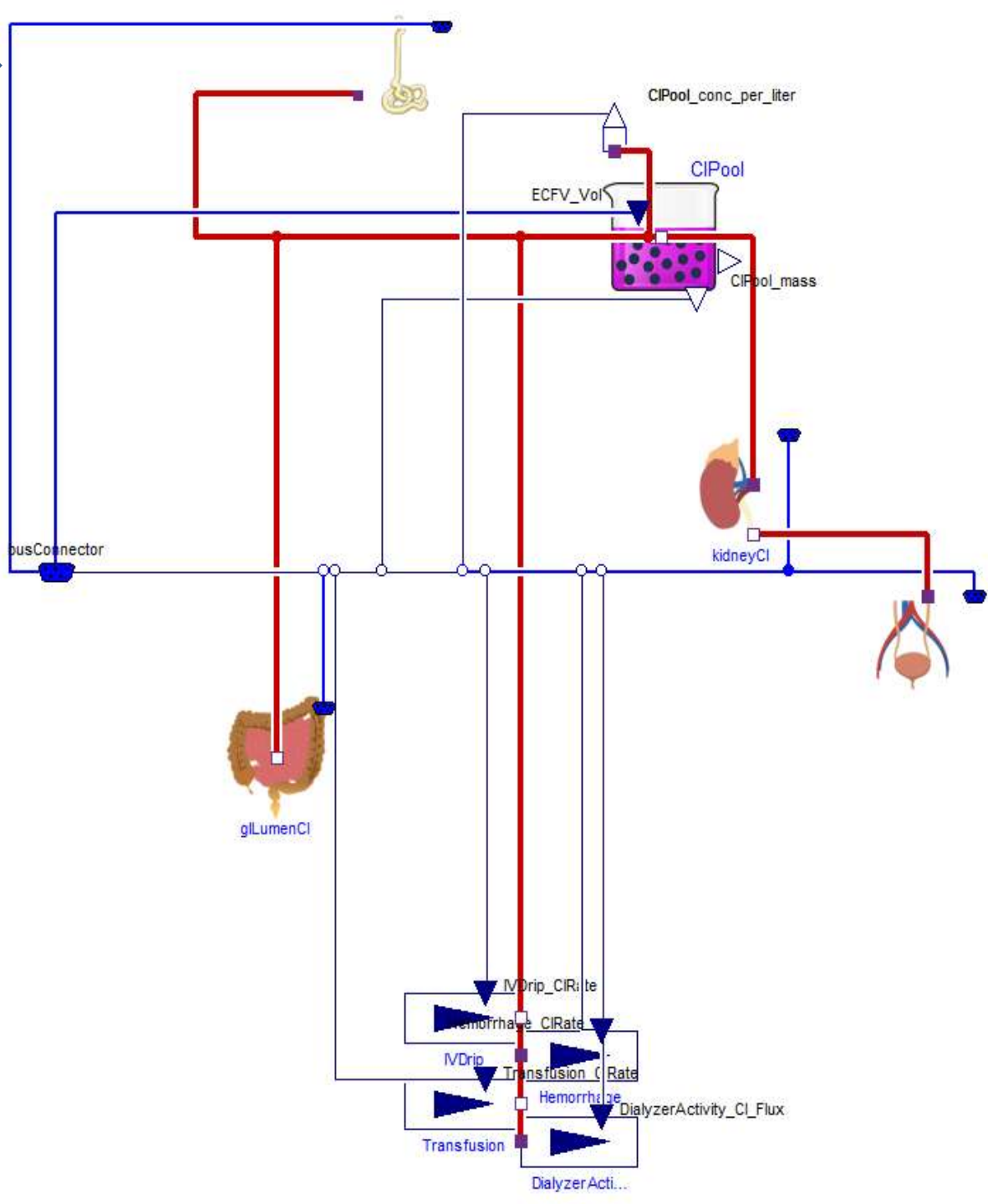
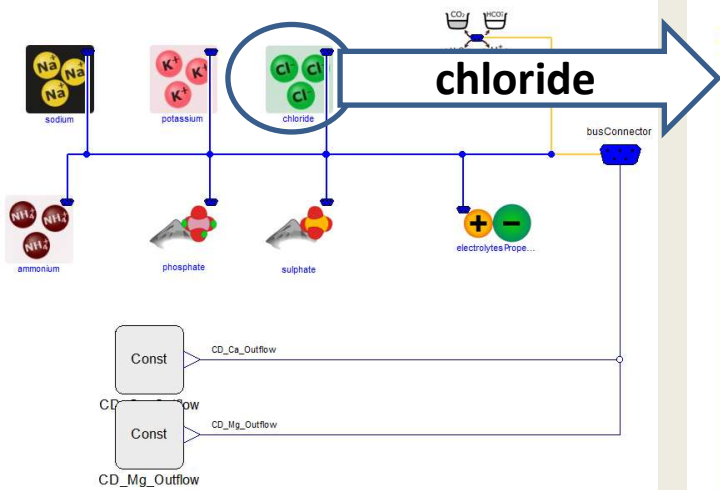
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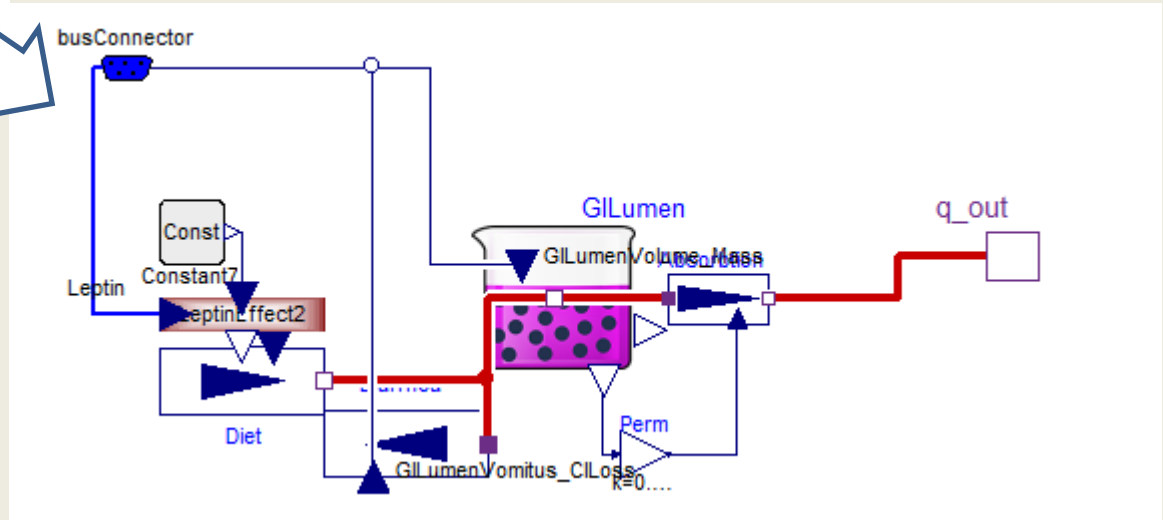
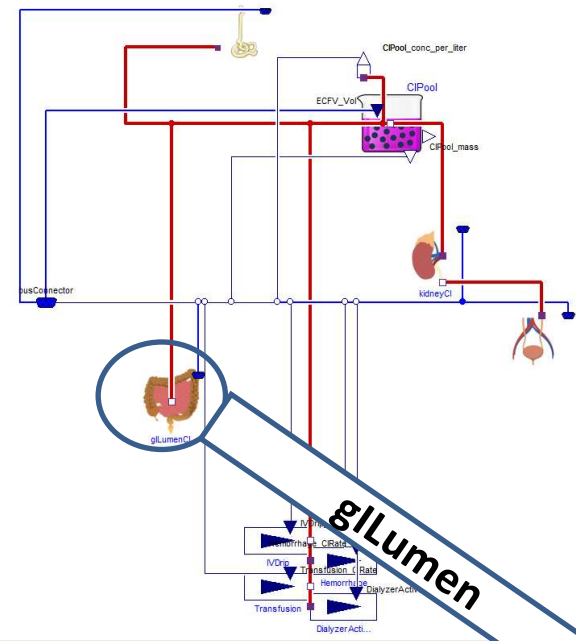




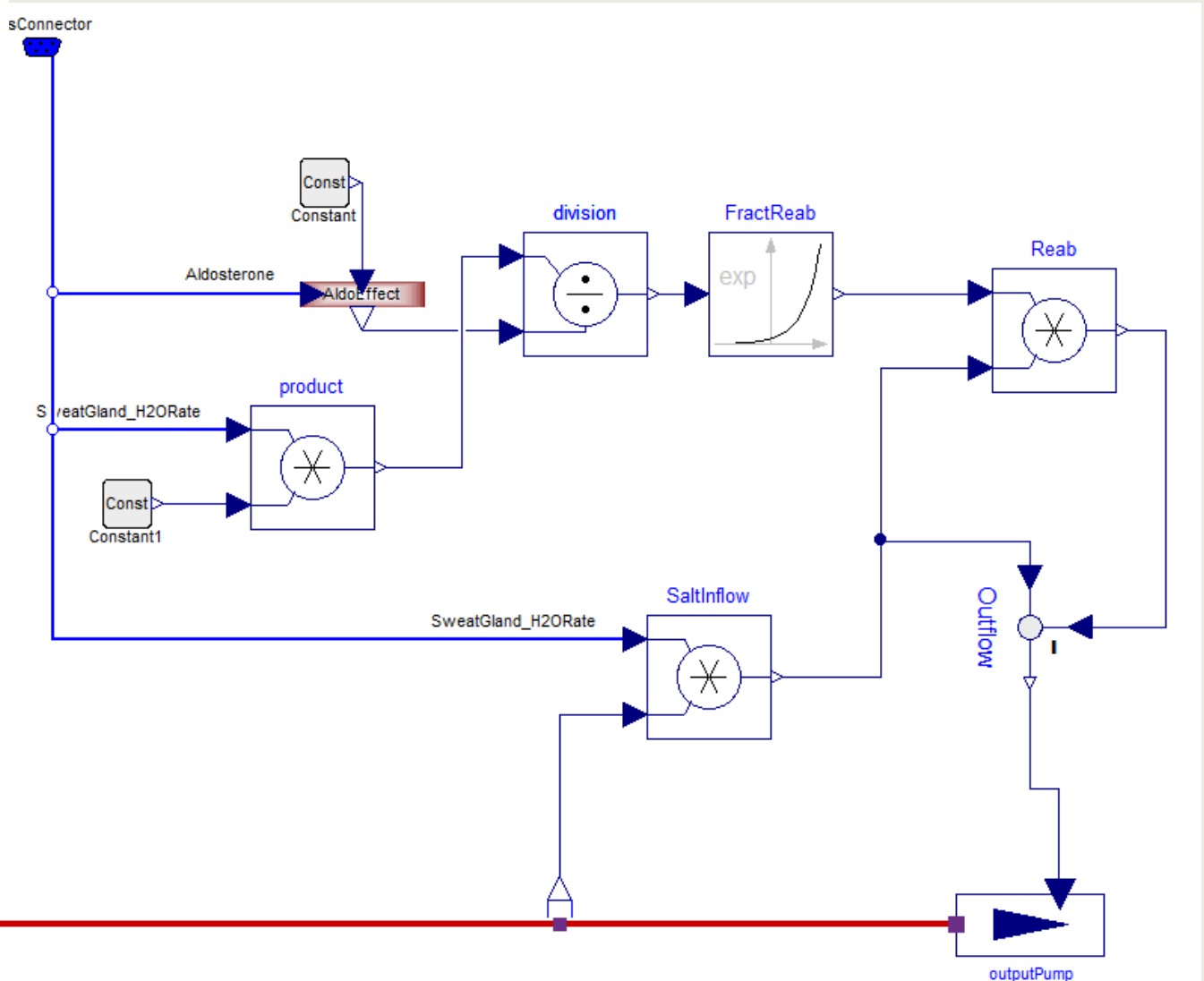
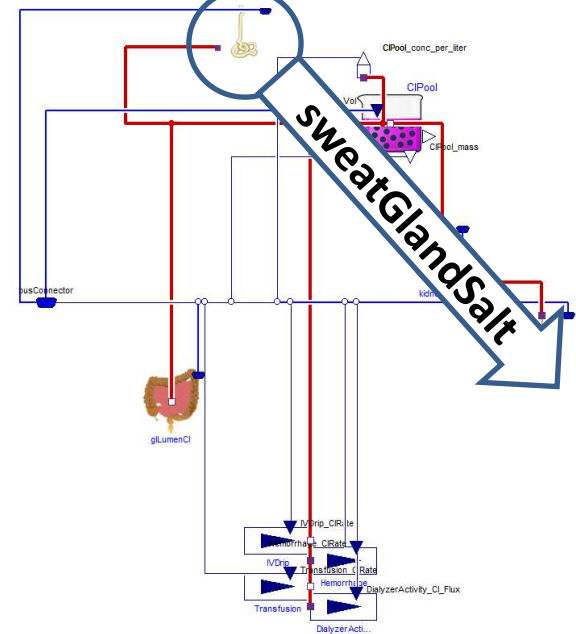
bladder

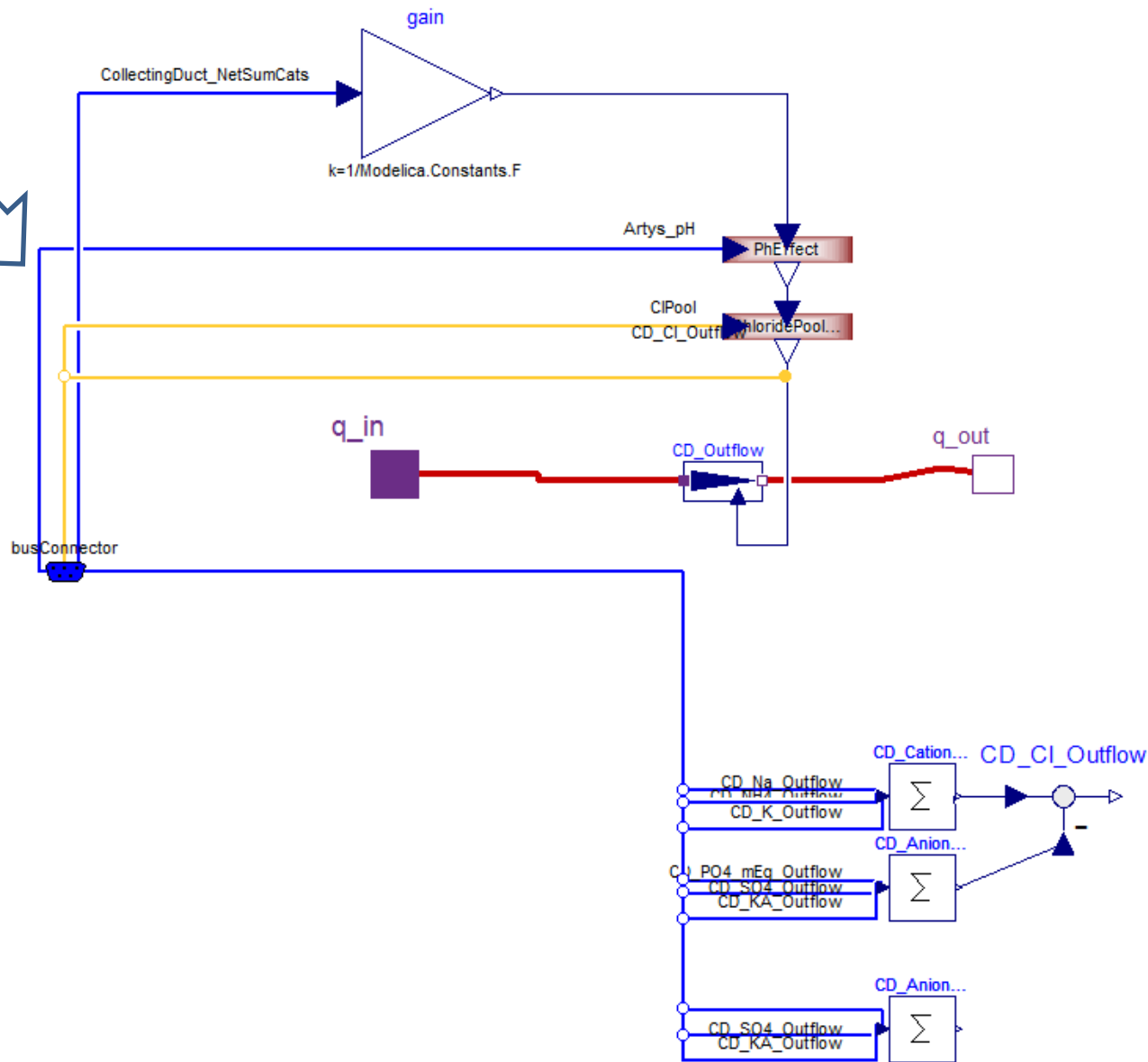
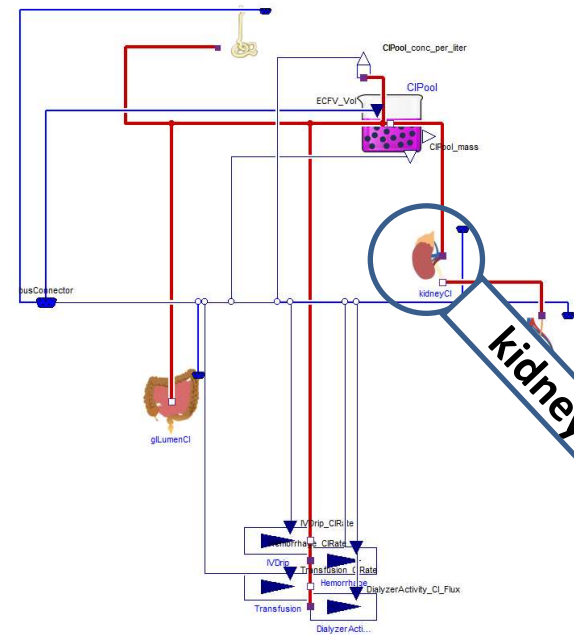


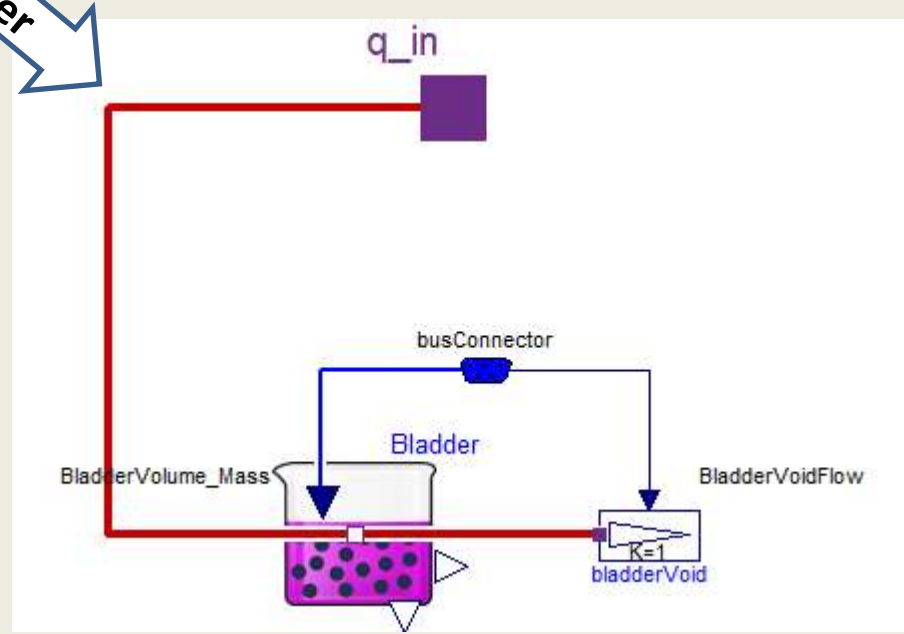
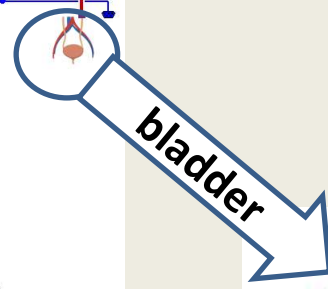
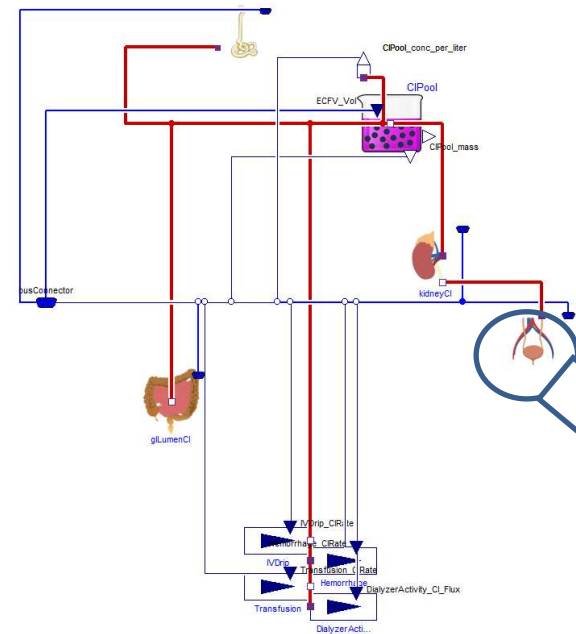


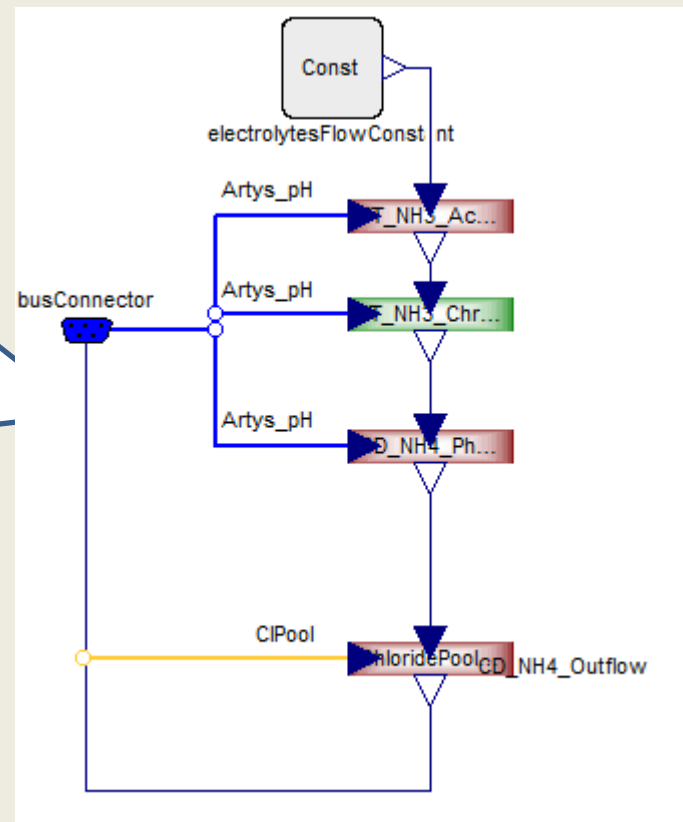
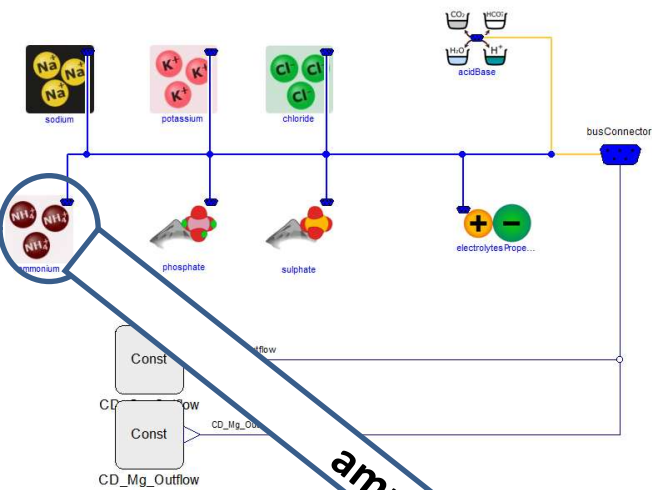


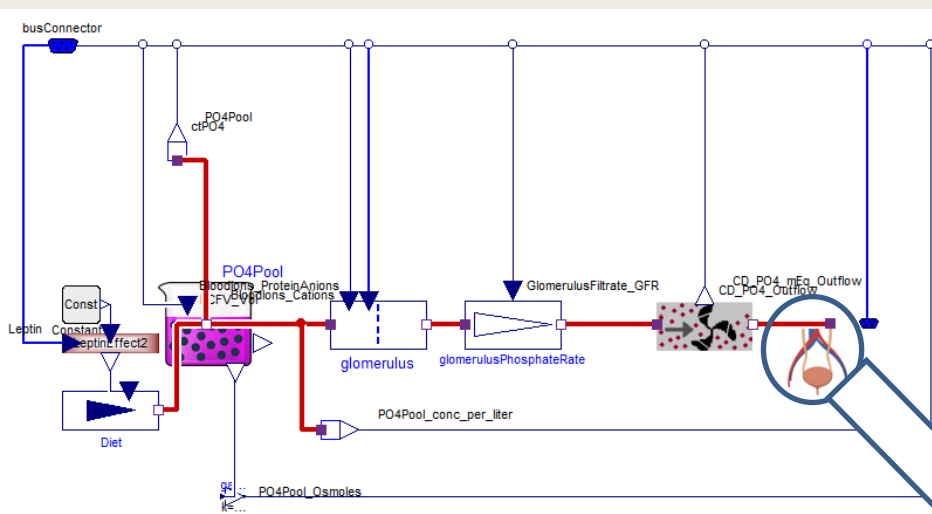
SweatGlandSalt



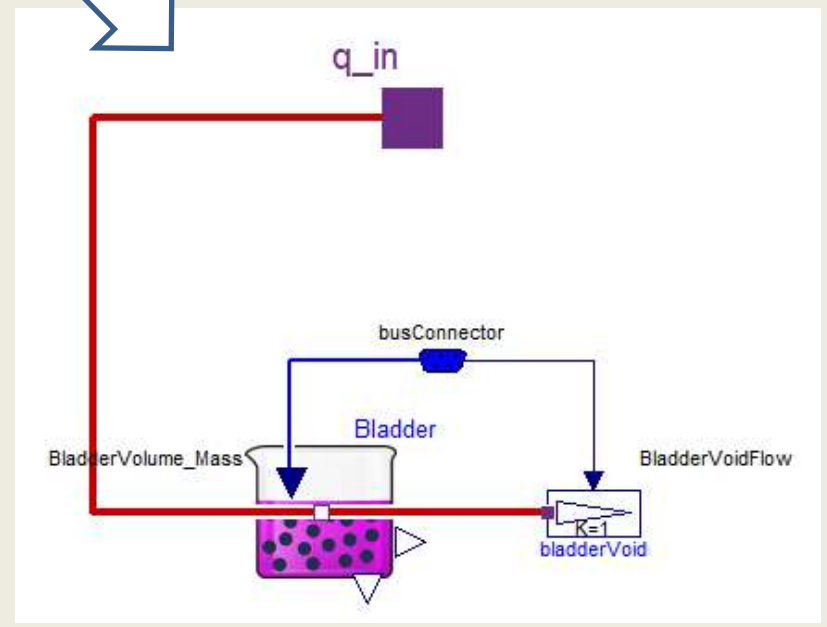


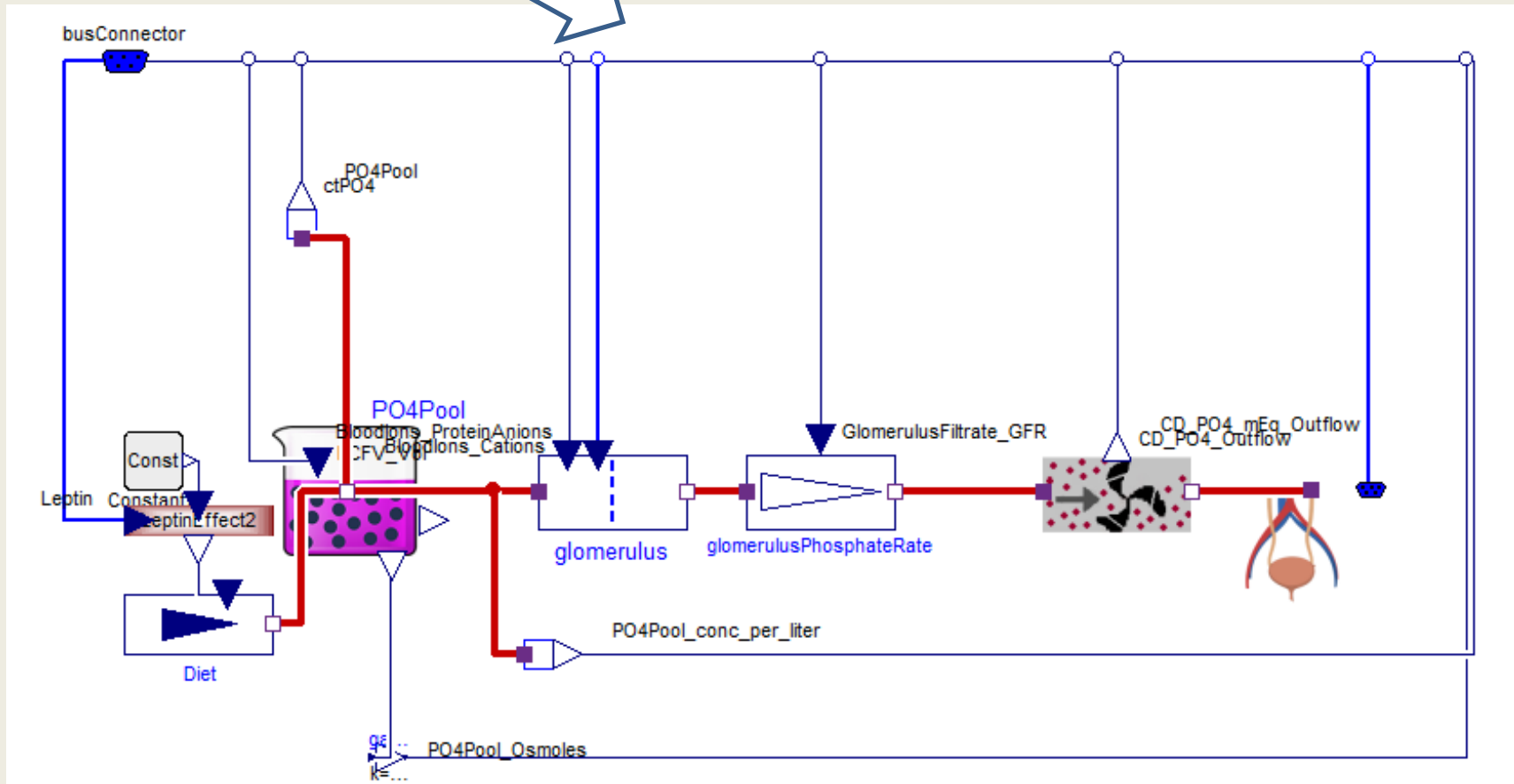
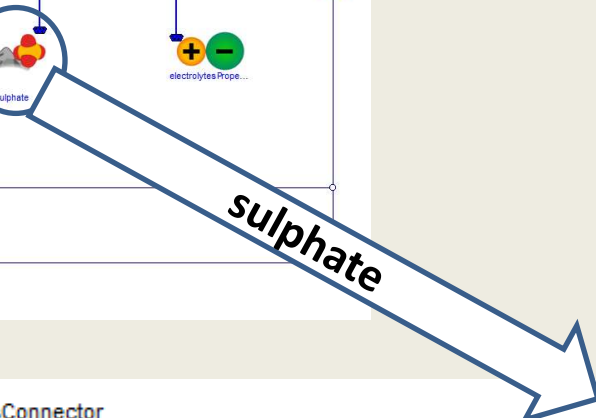
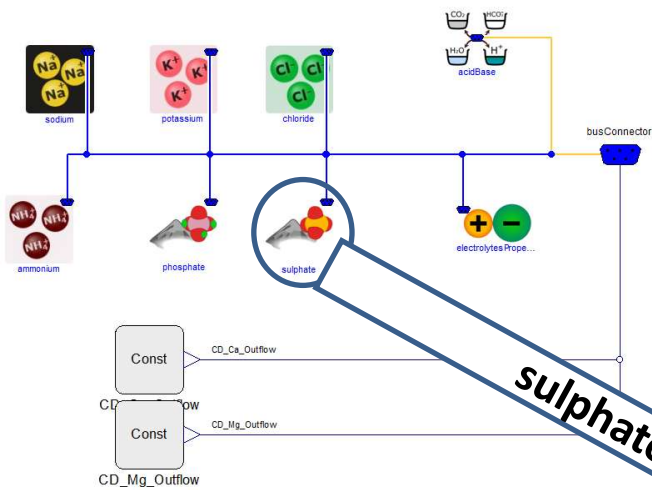


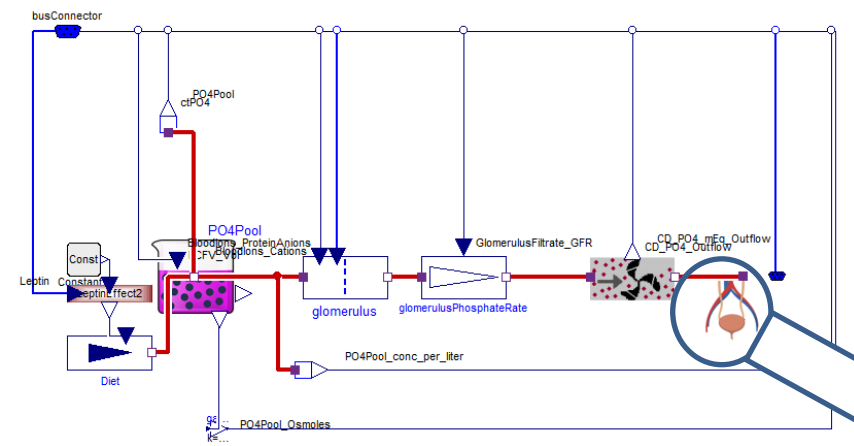




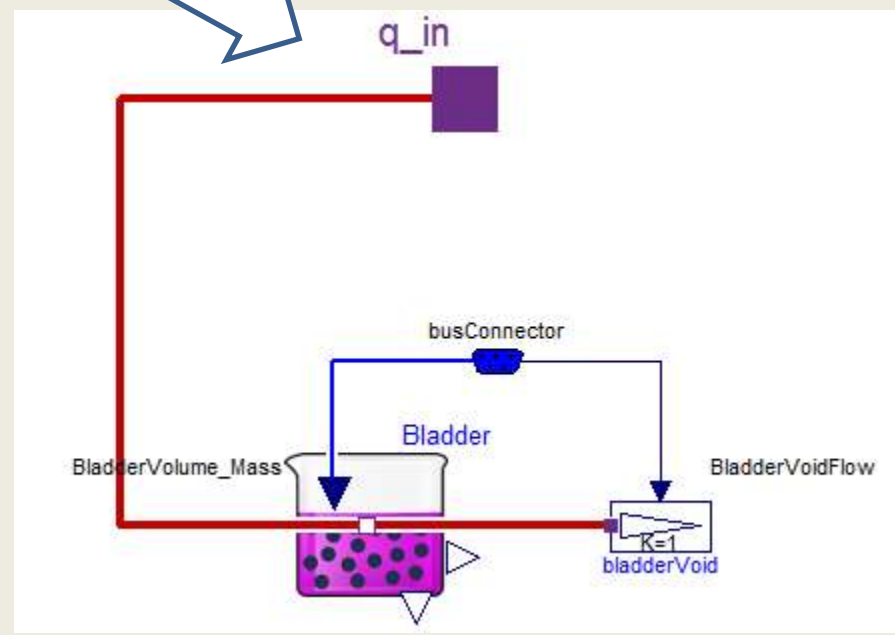
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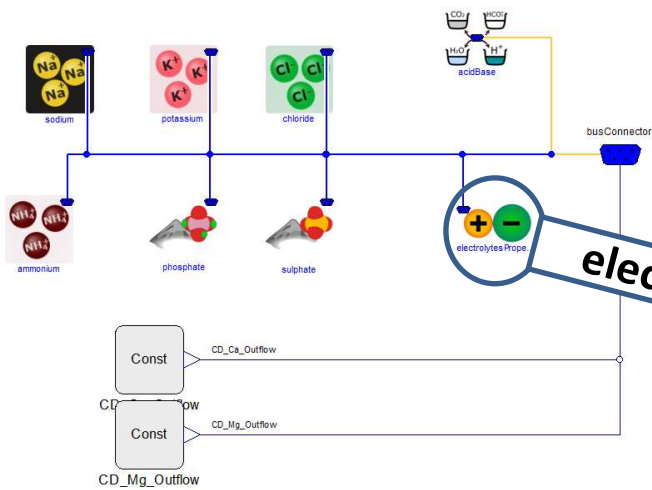




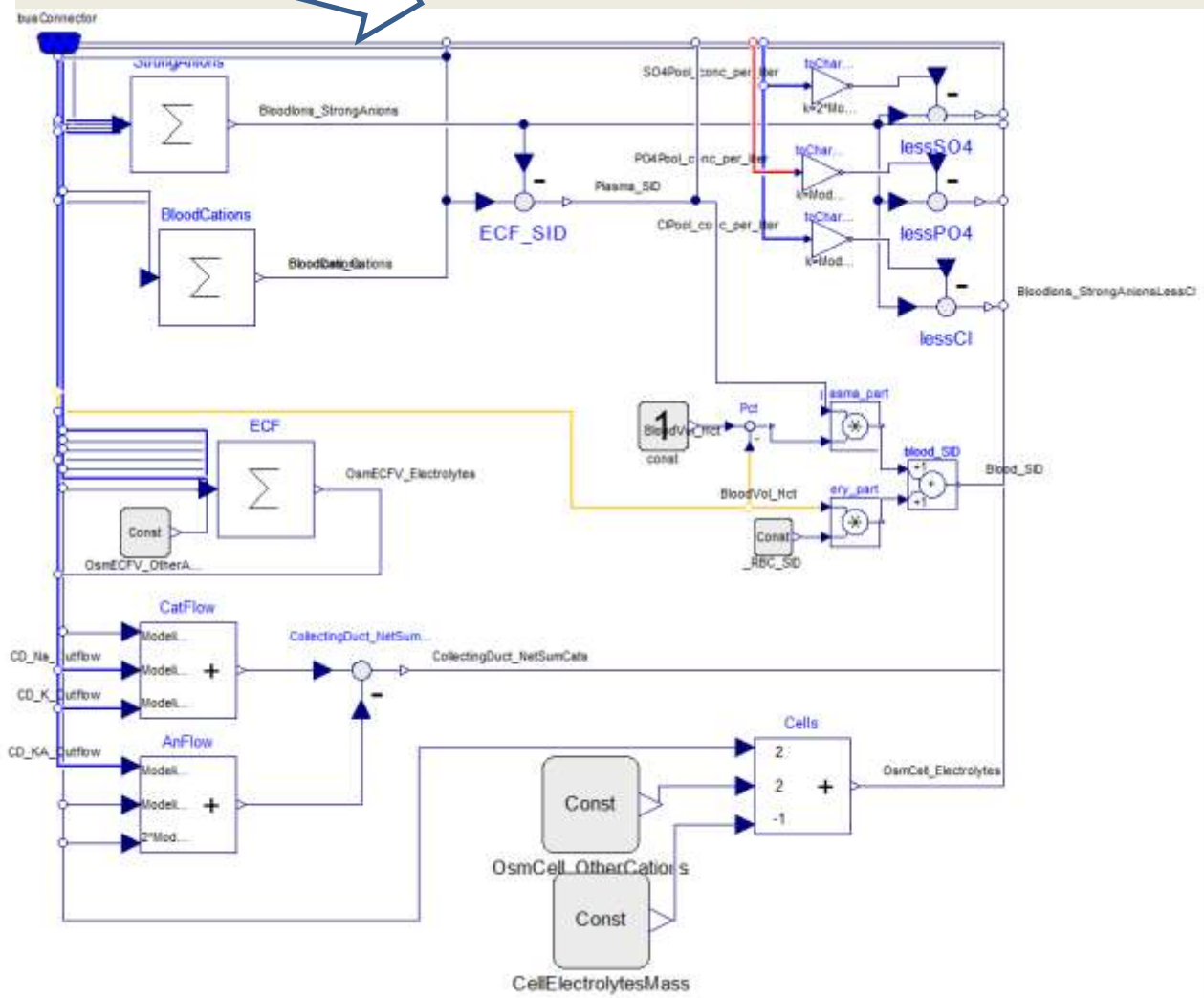


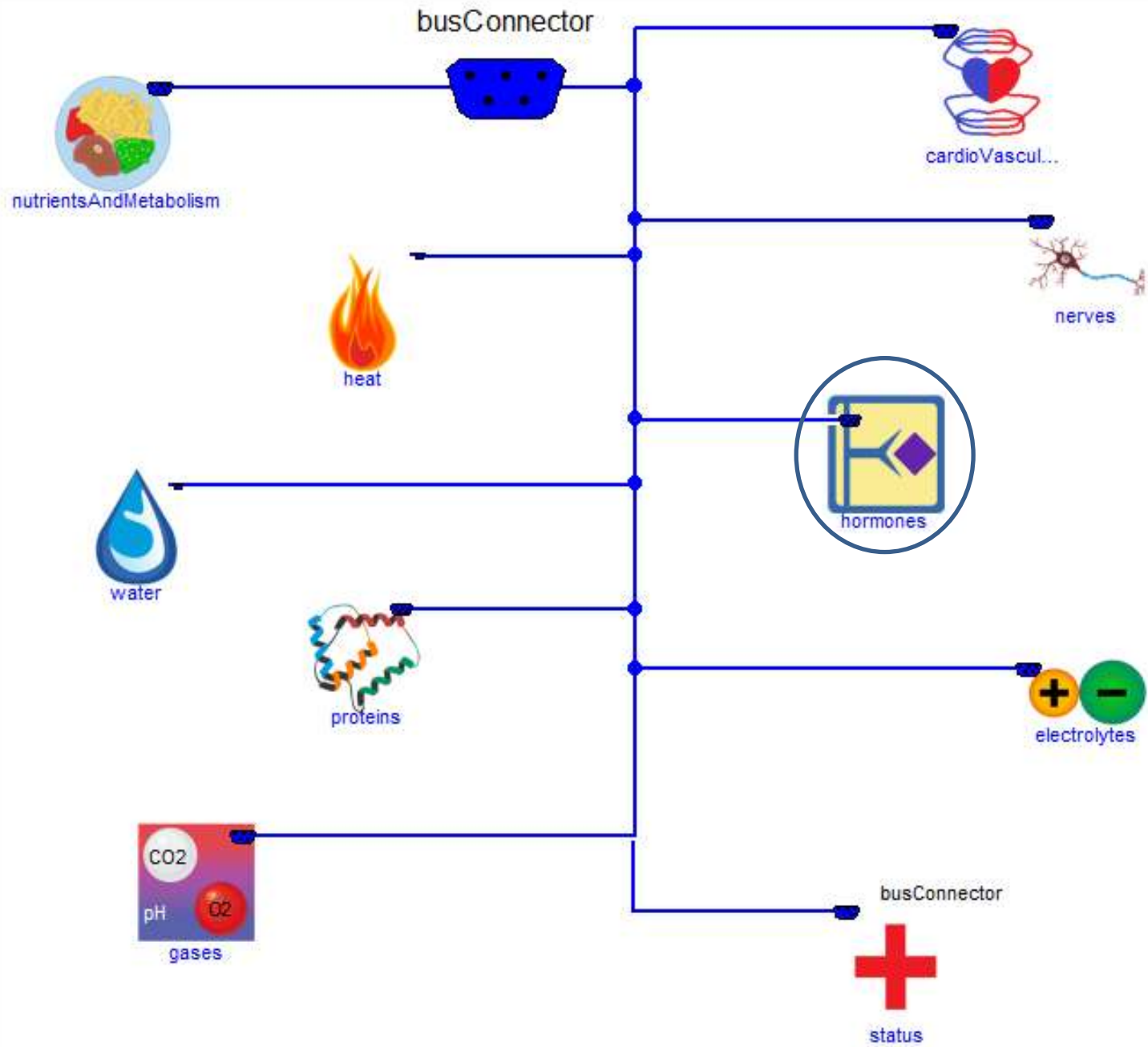
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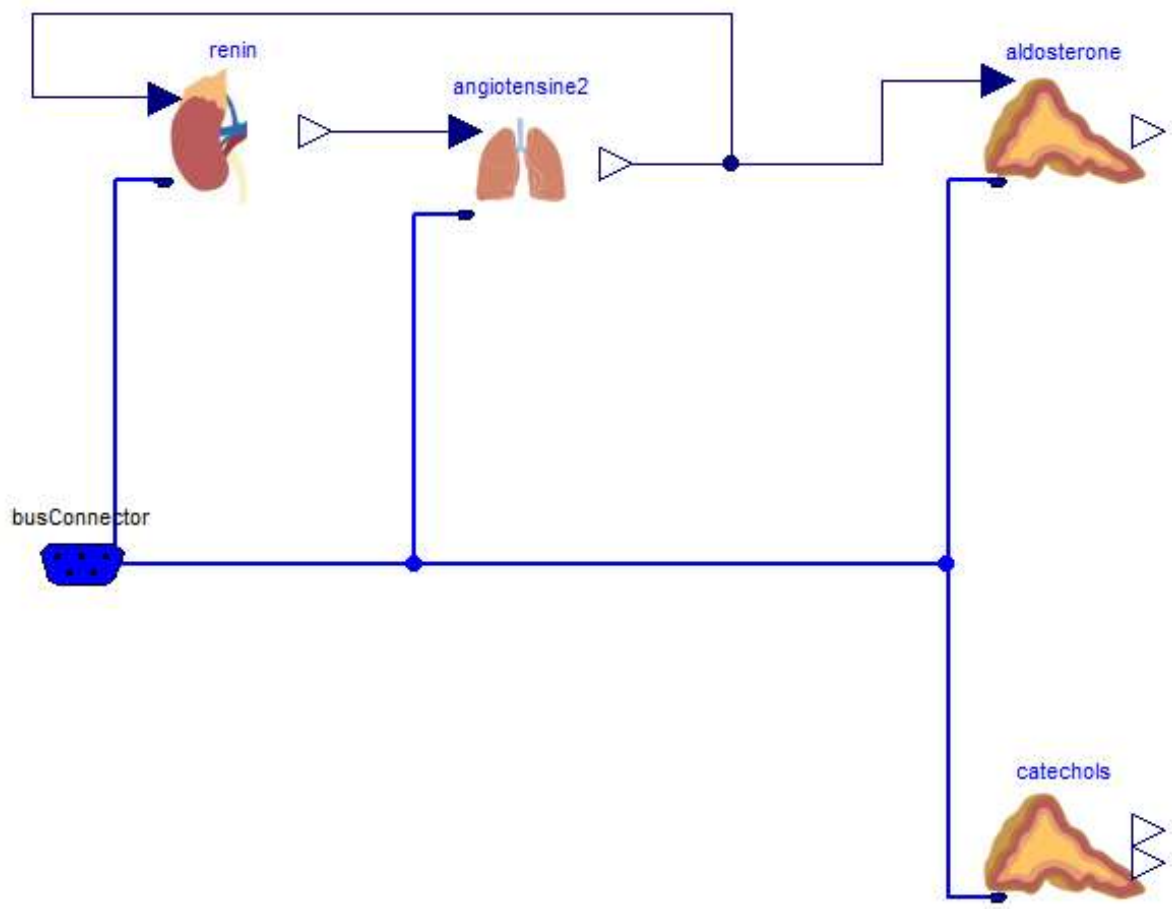
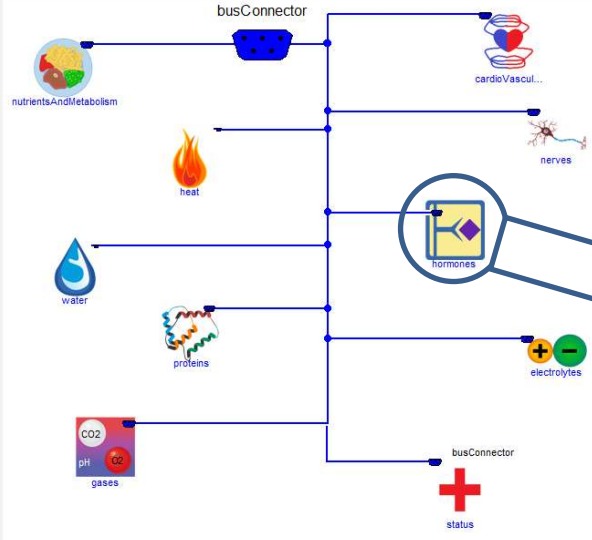


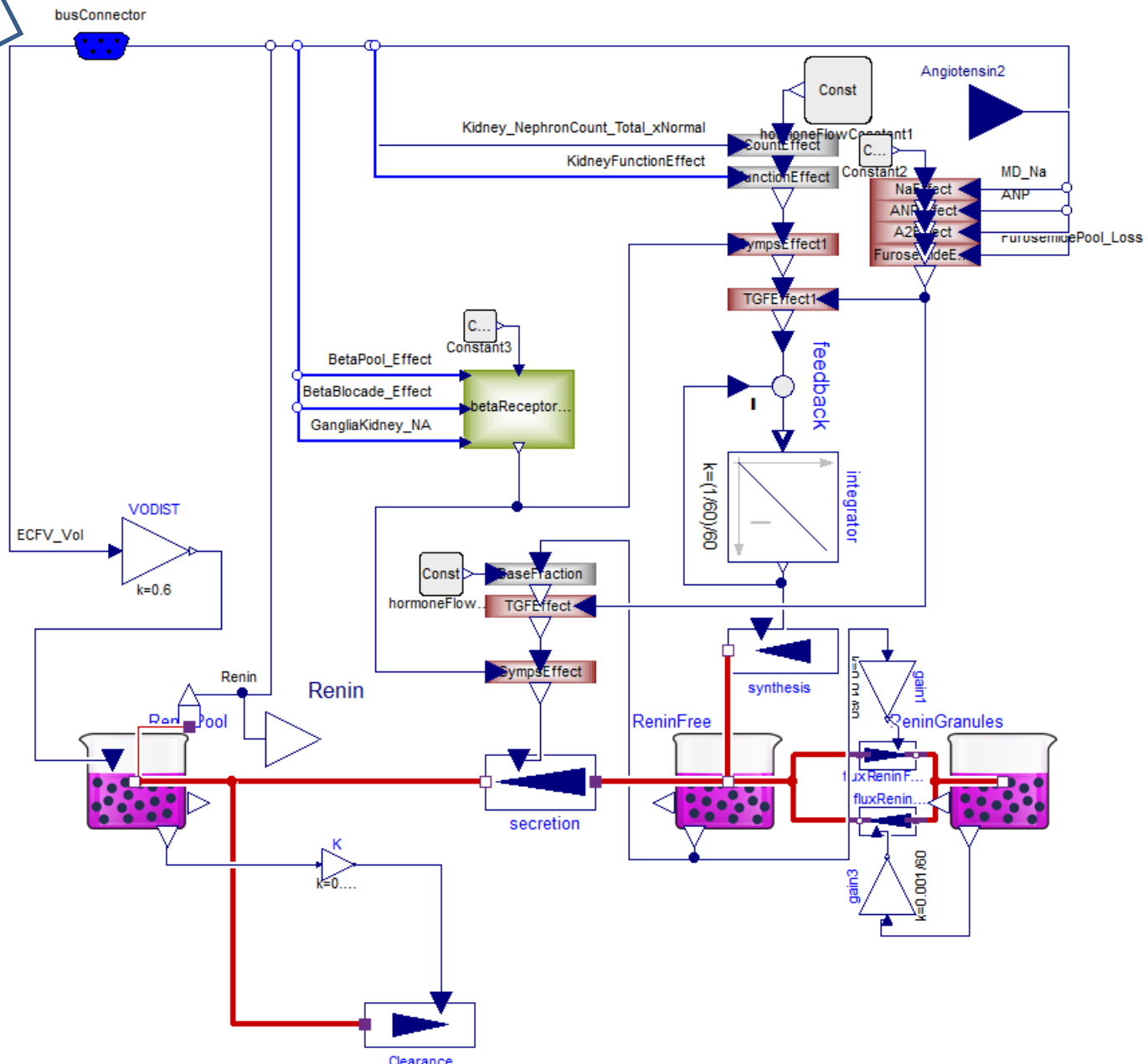
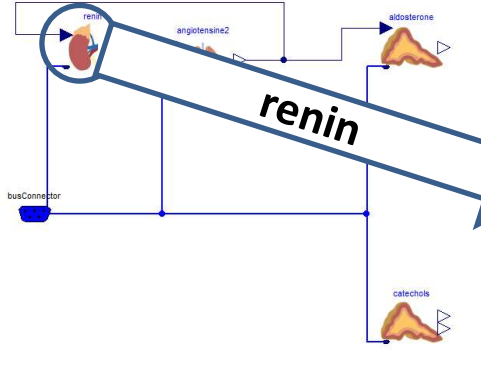


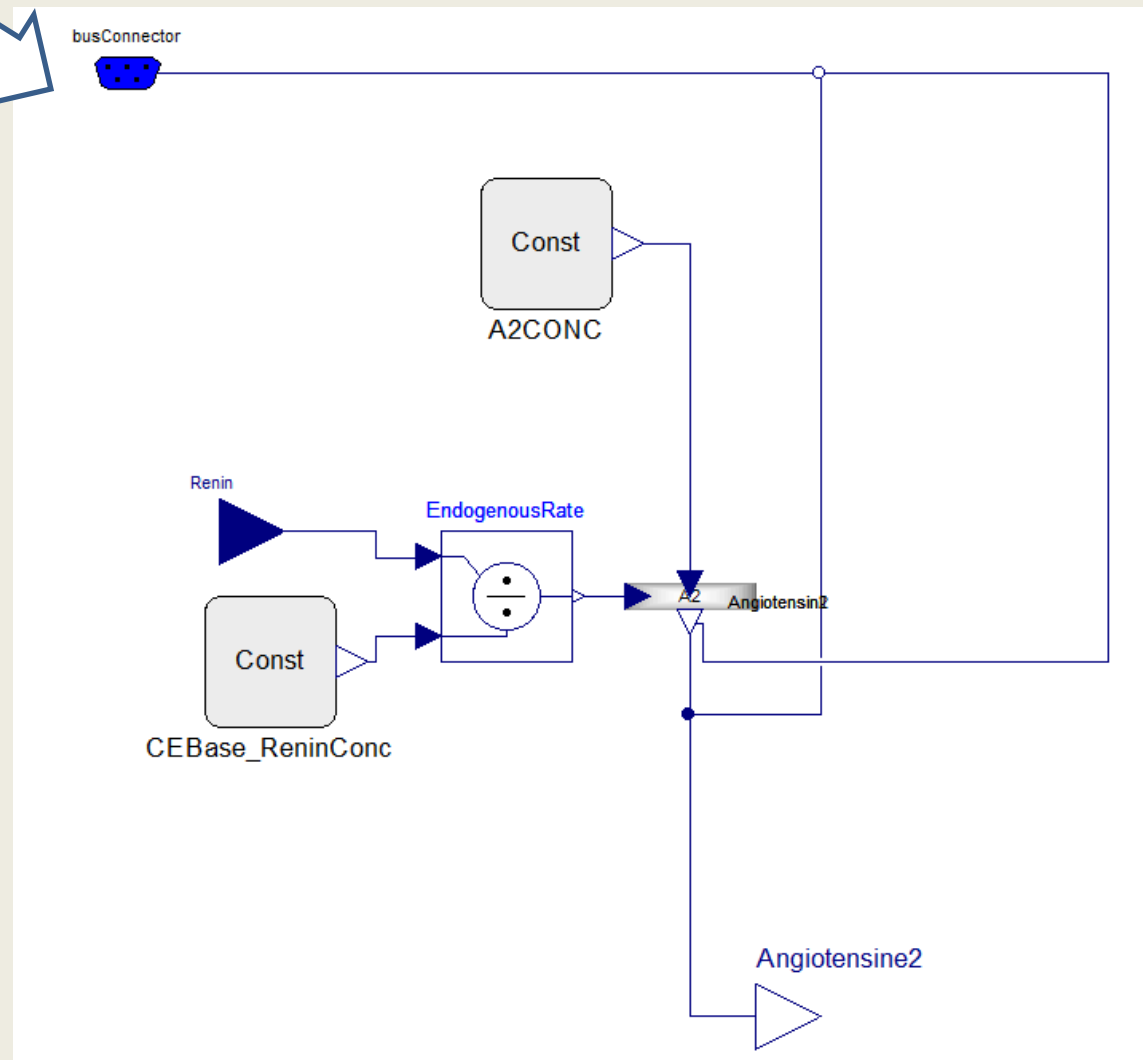
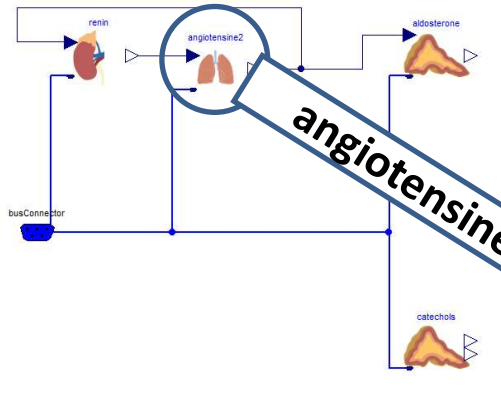
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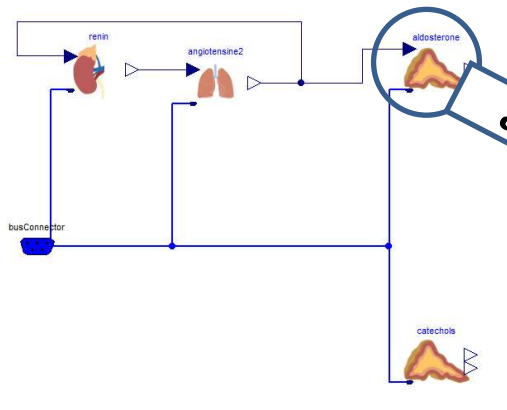




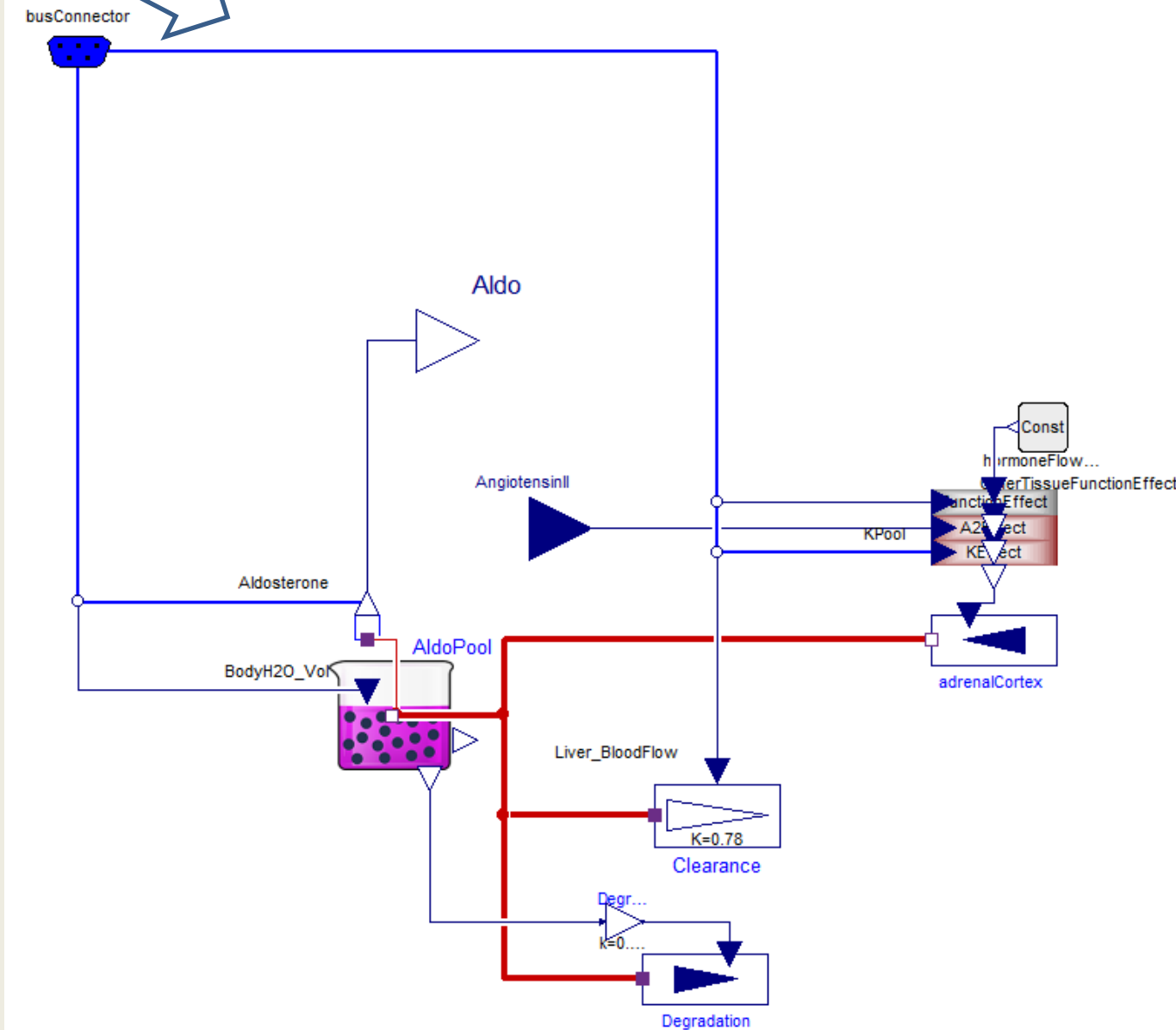


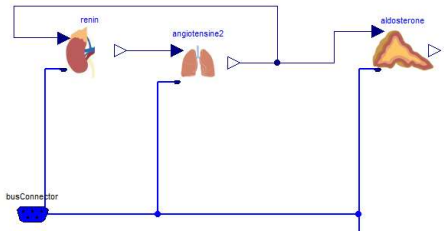




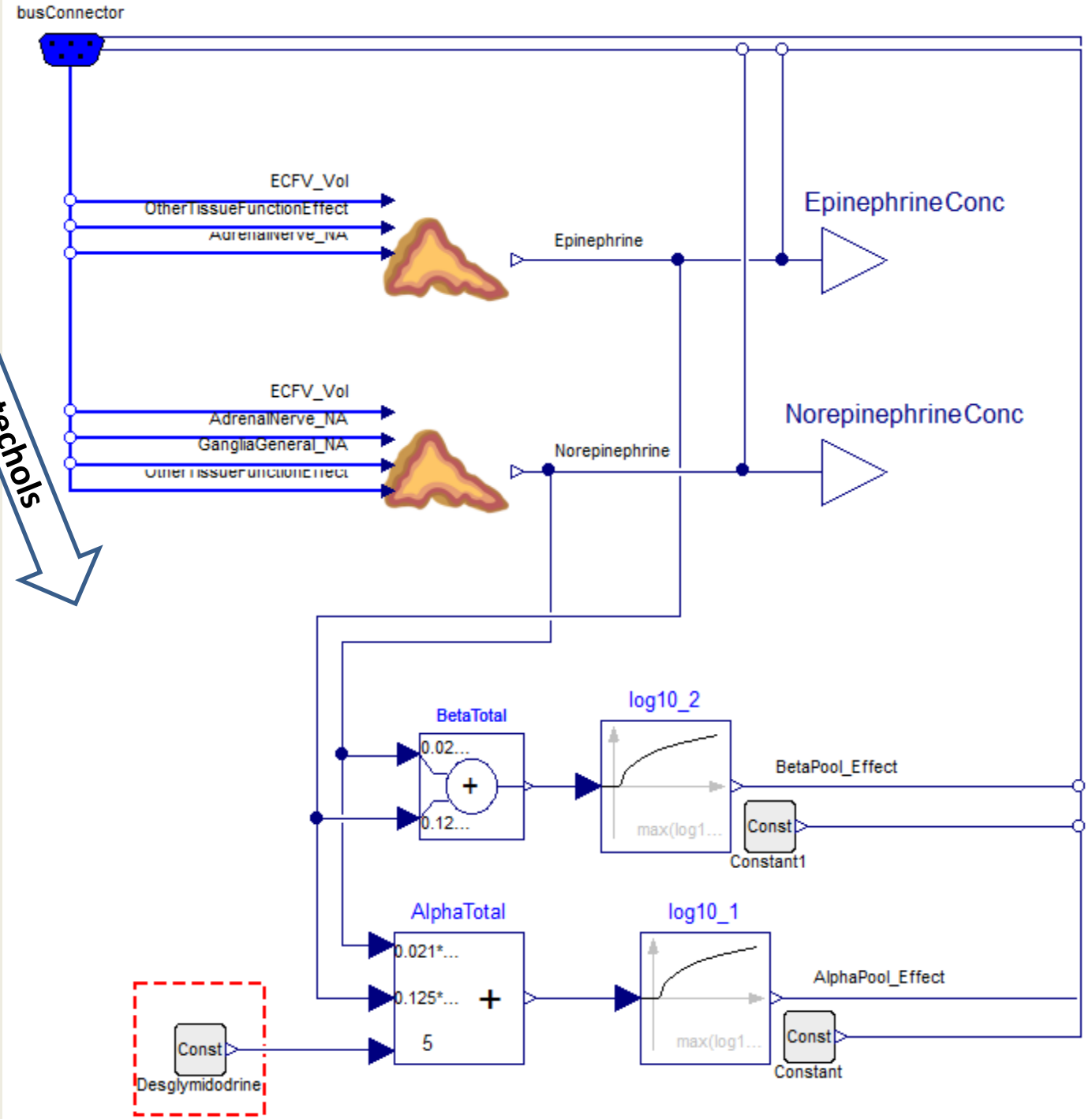


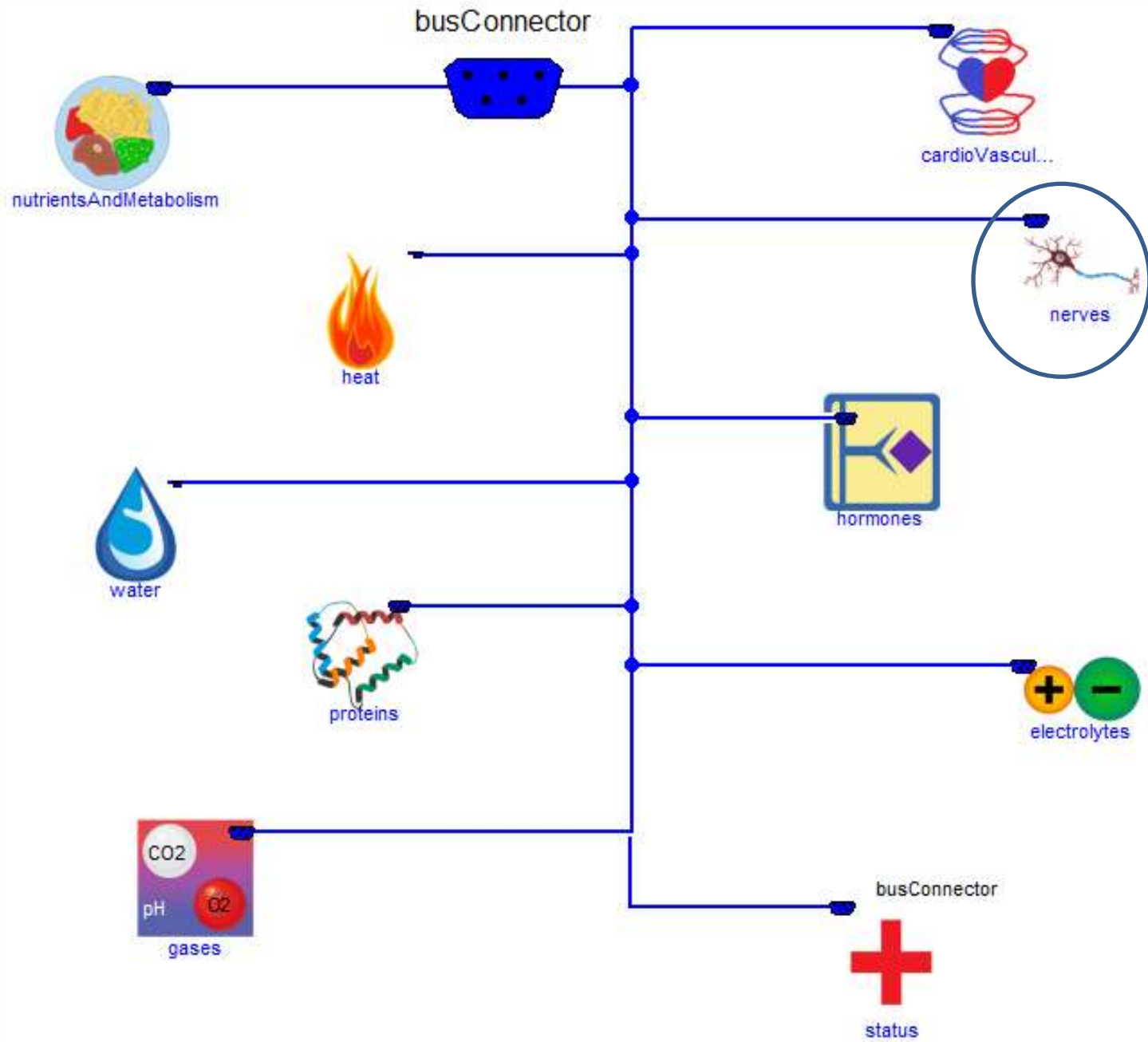
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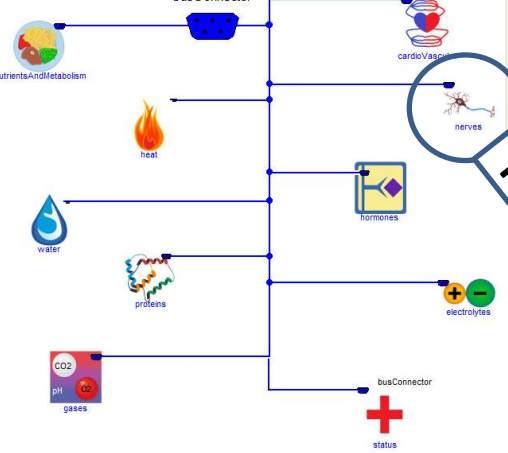




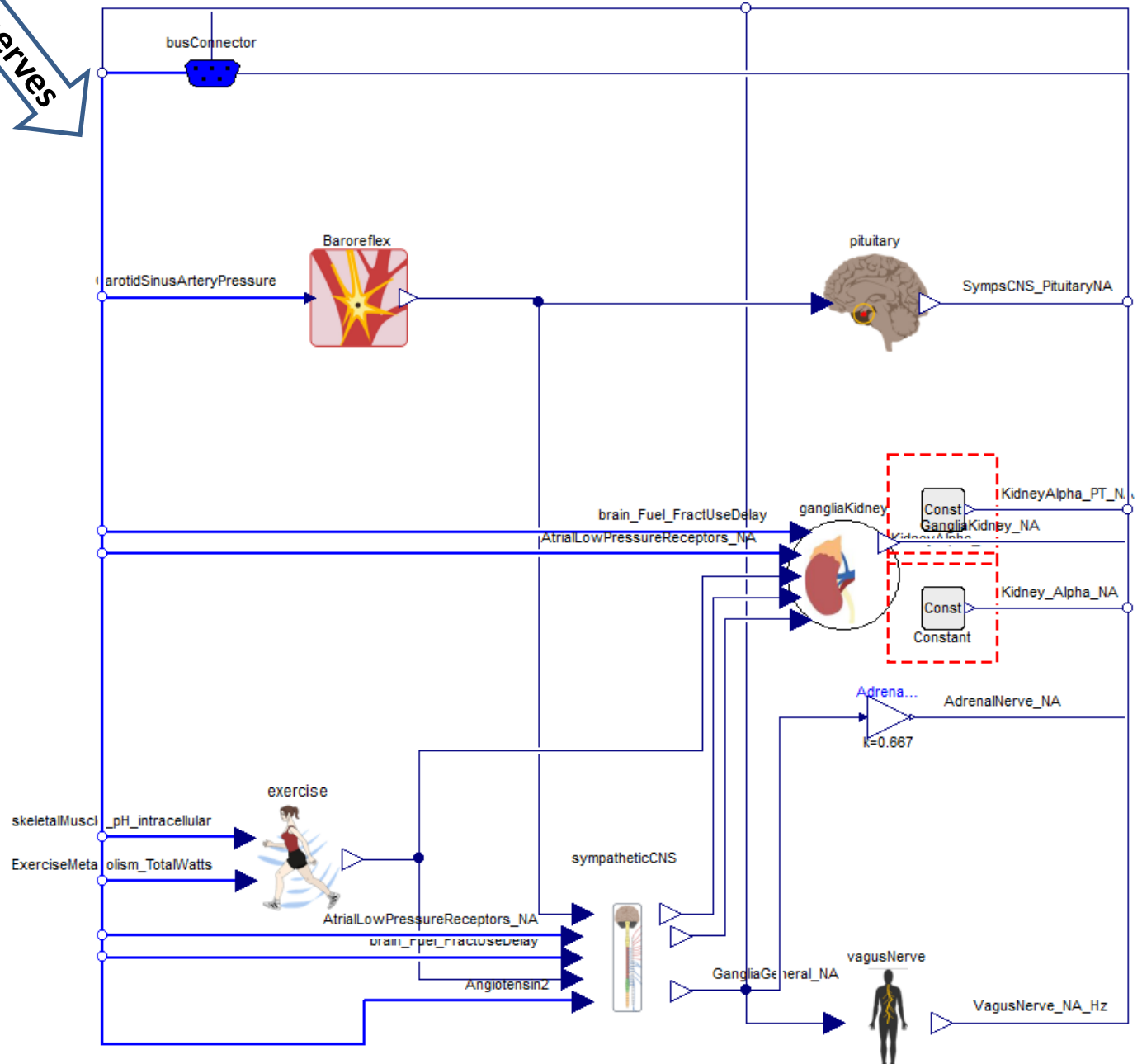
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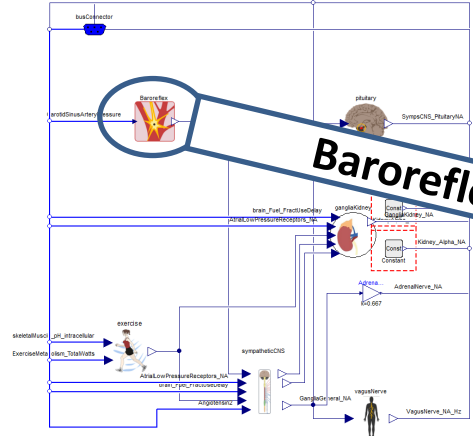




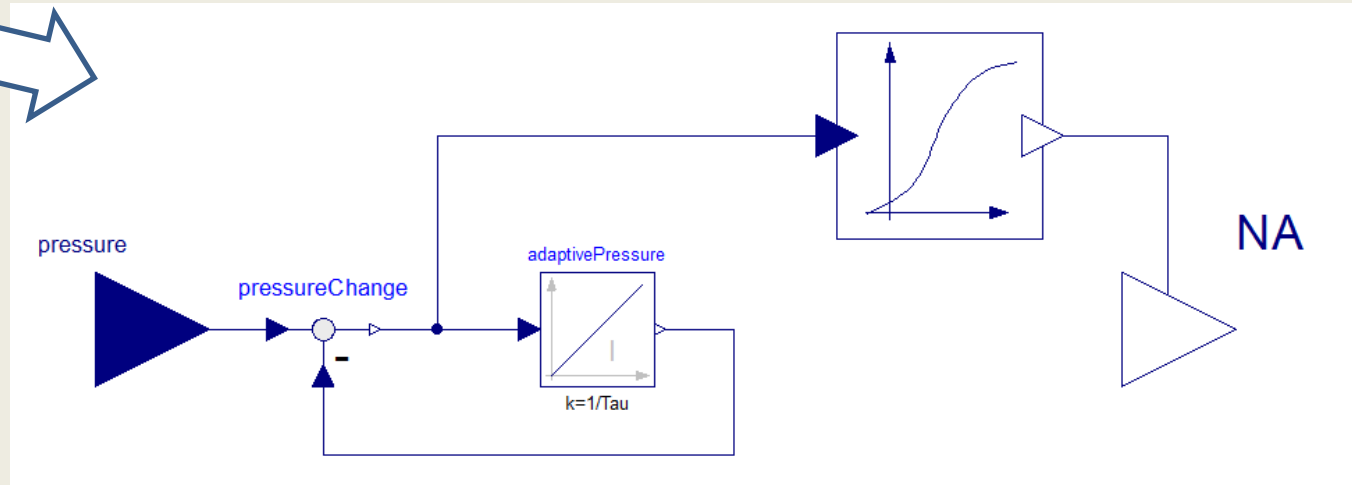


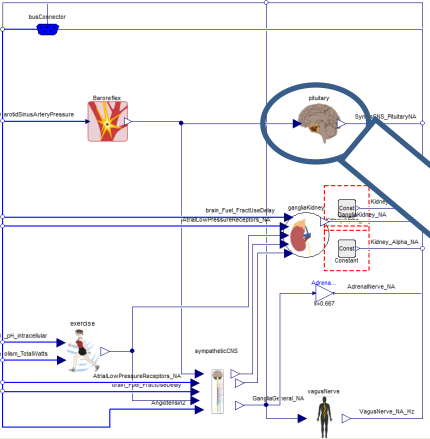
nerves





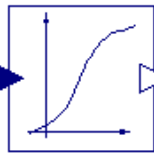
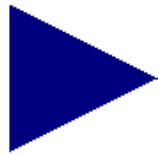
Baroreflex



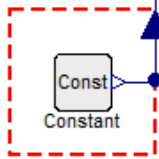


pituitary

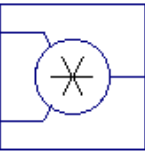
Baroreflex_NA



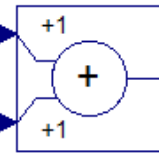
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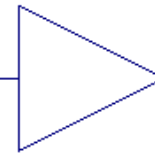
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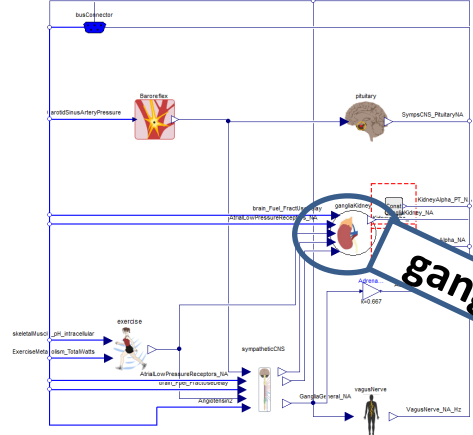


add

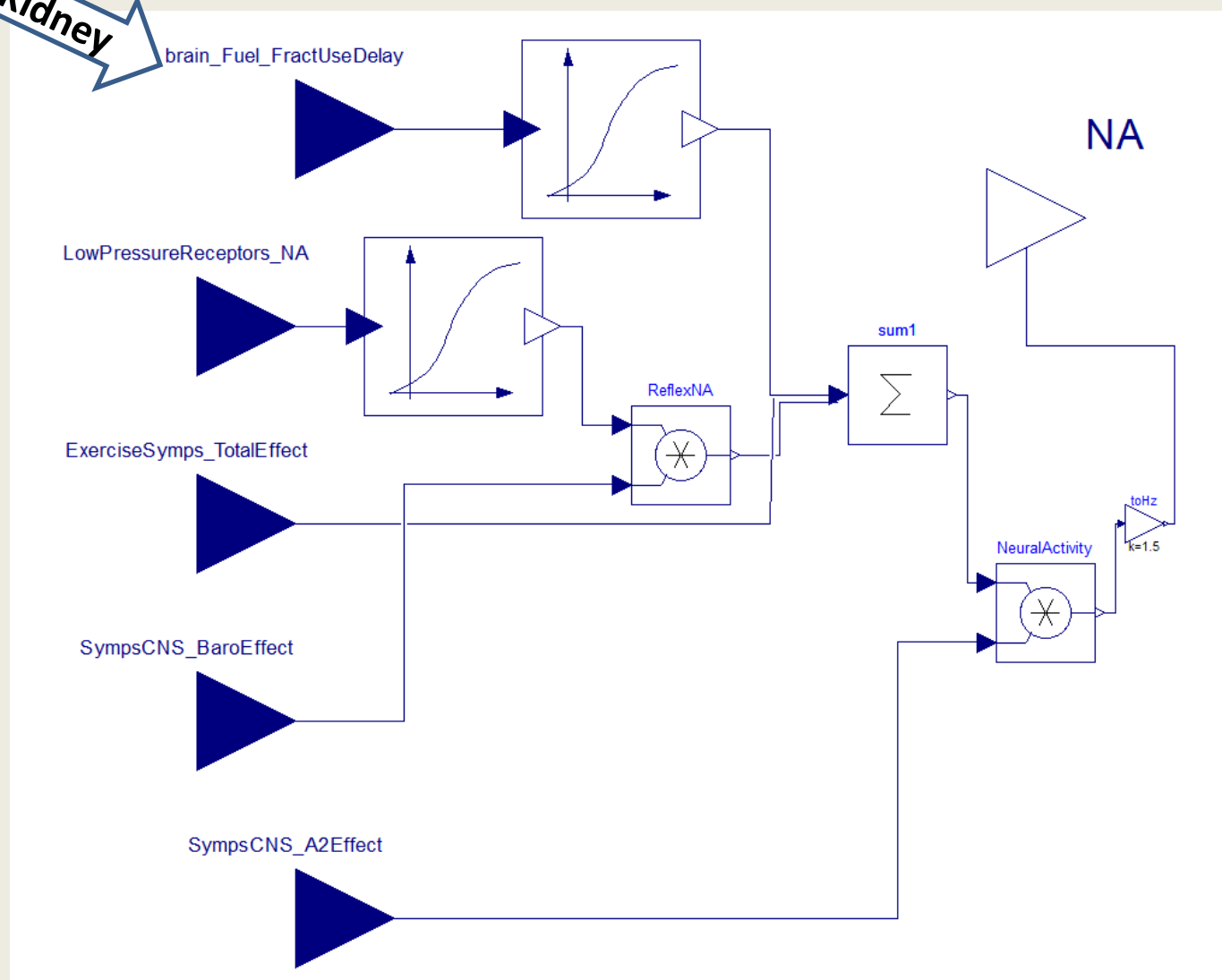


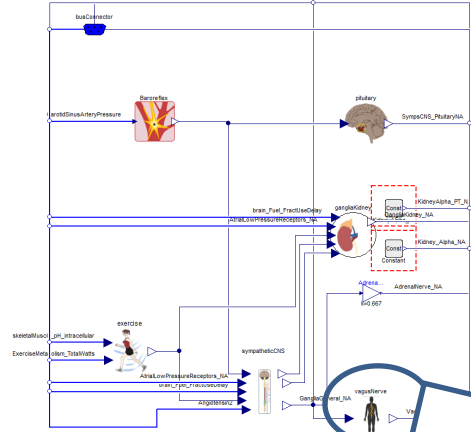
BaroEffect





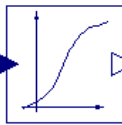
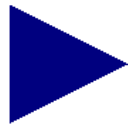
gangliaKidney



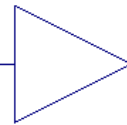


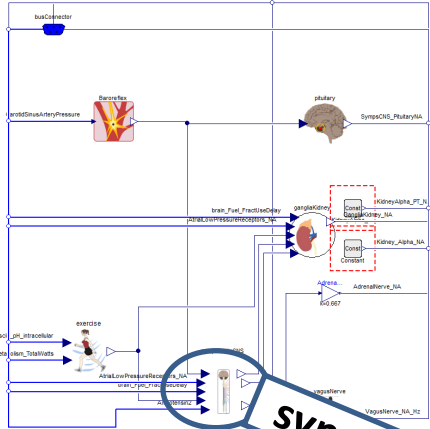
vagusNerve

SympS_CNS_NA_Hz

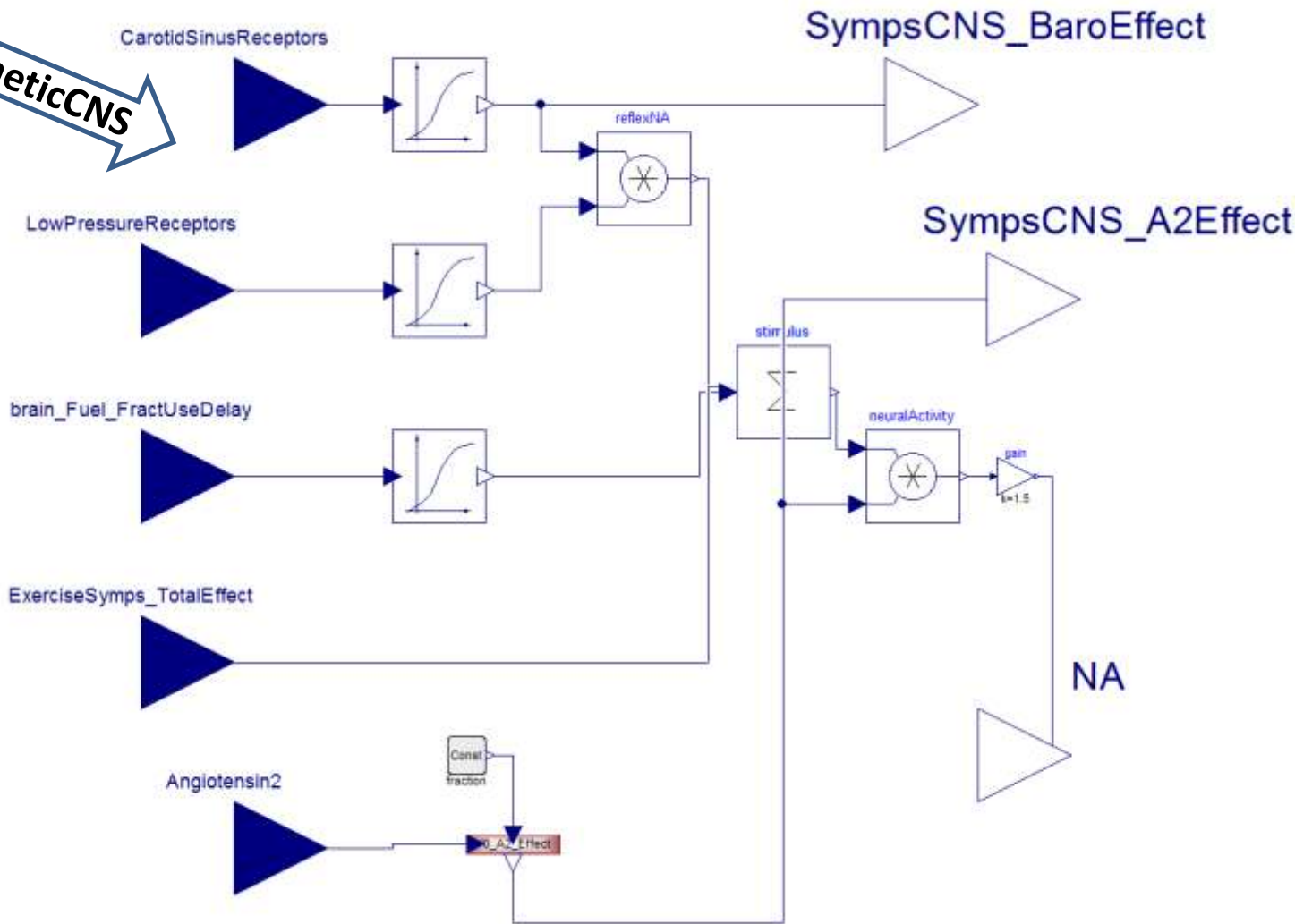


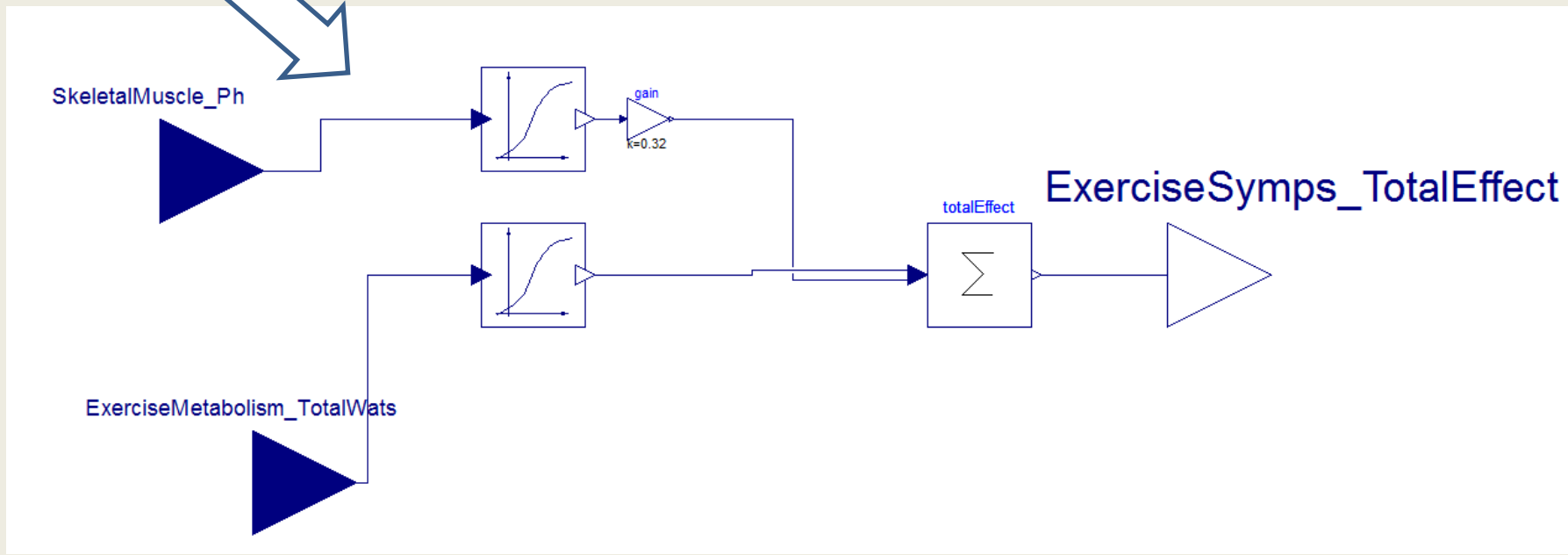
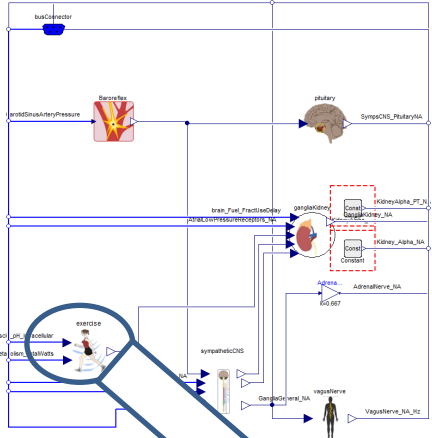
VagusNerve_NA_Hz

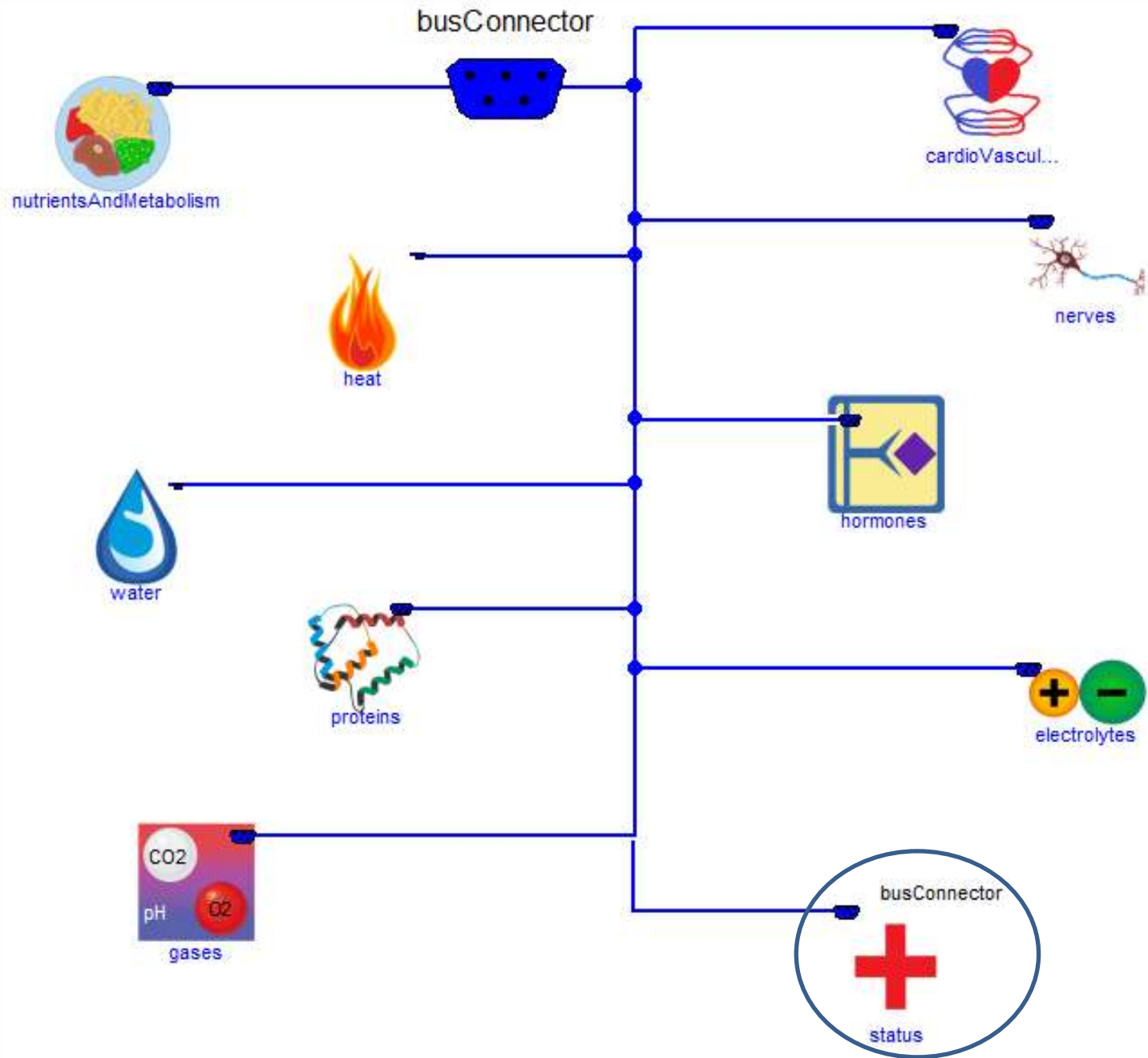


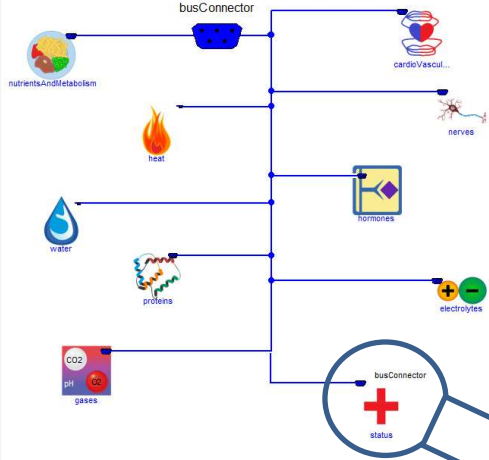


sympatheticCNS



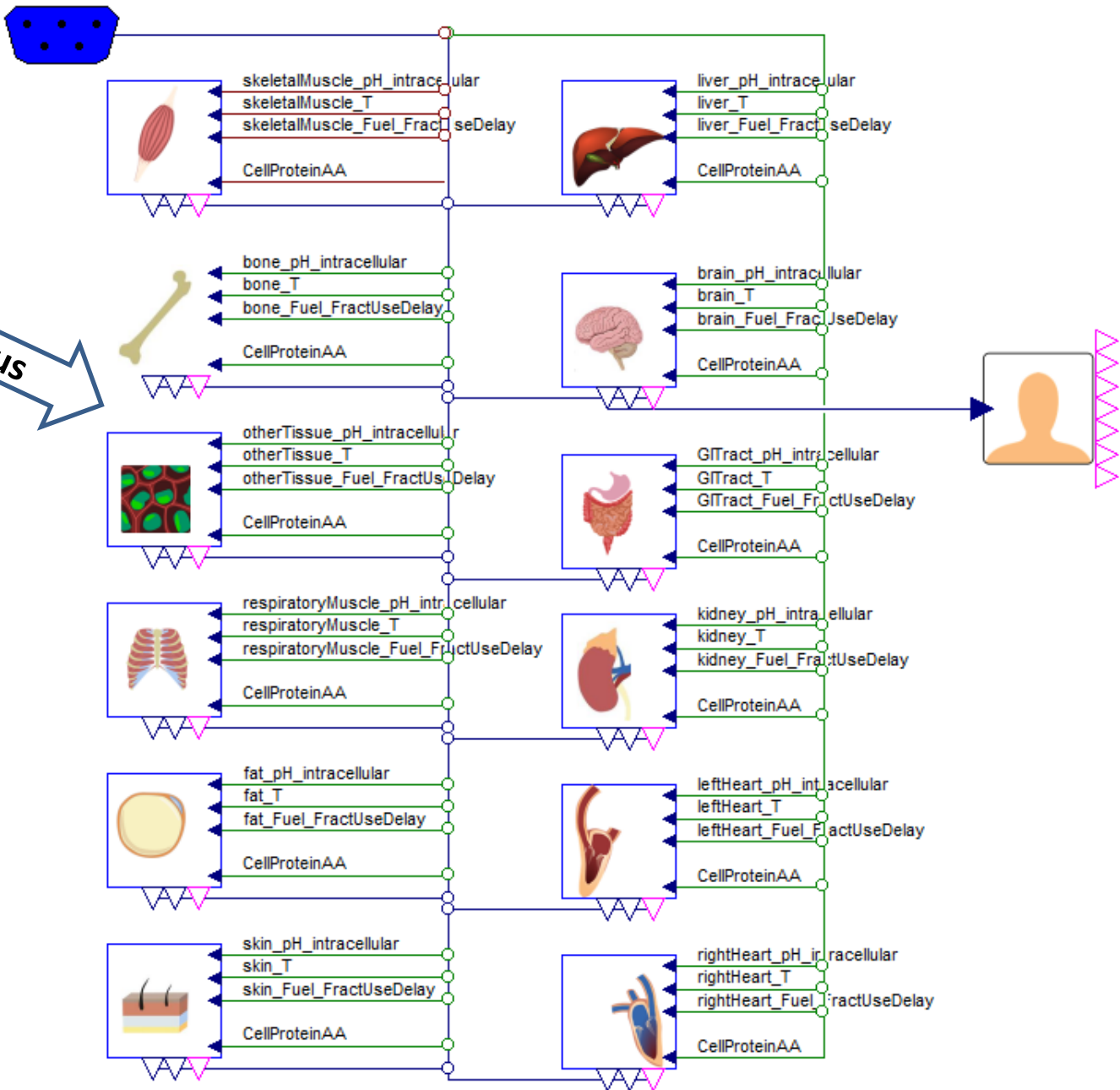


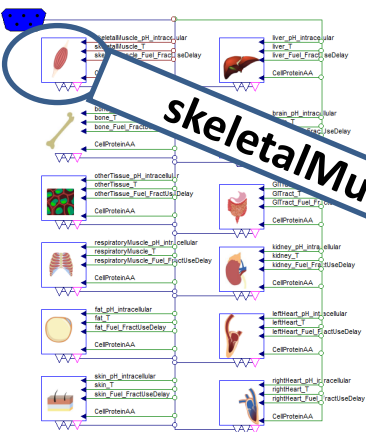




busConnector

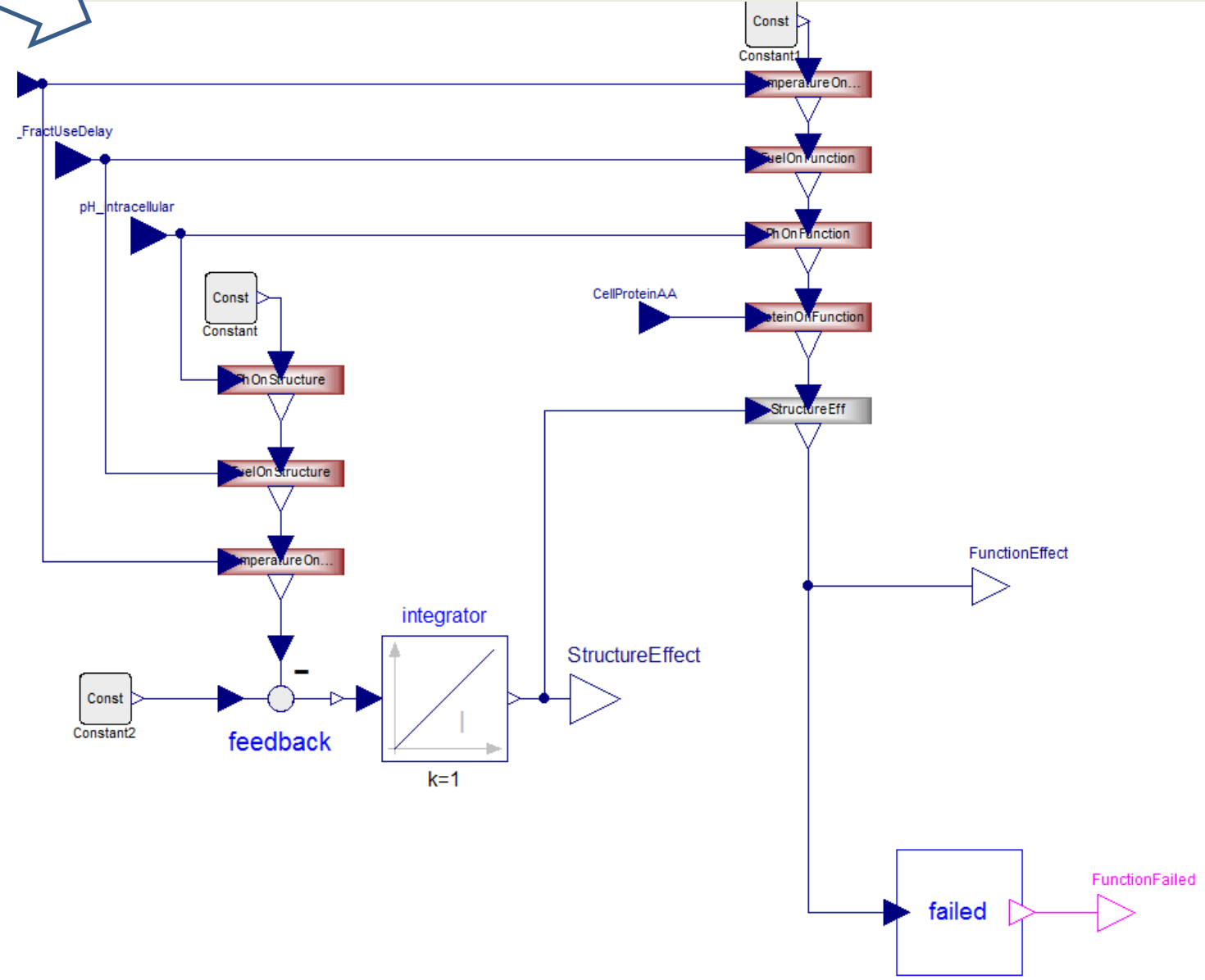
status

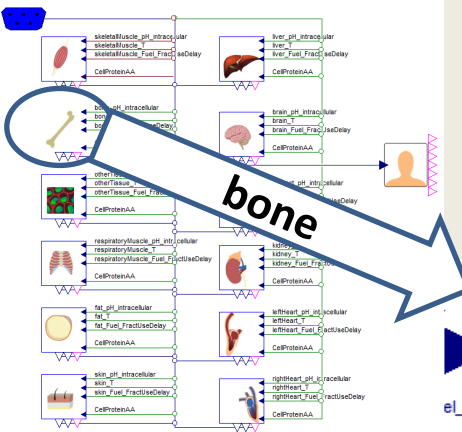




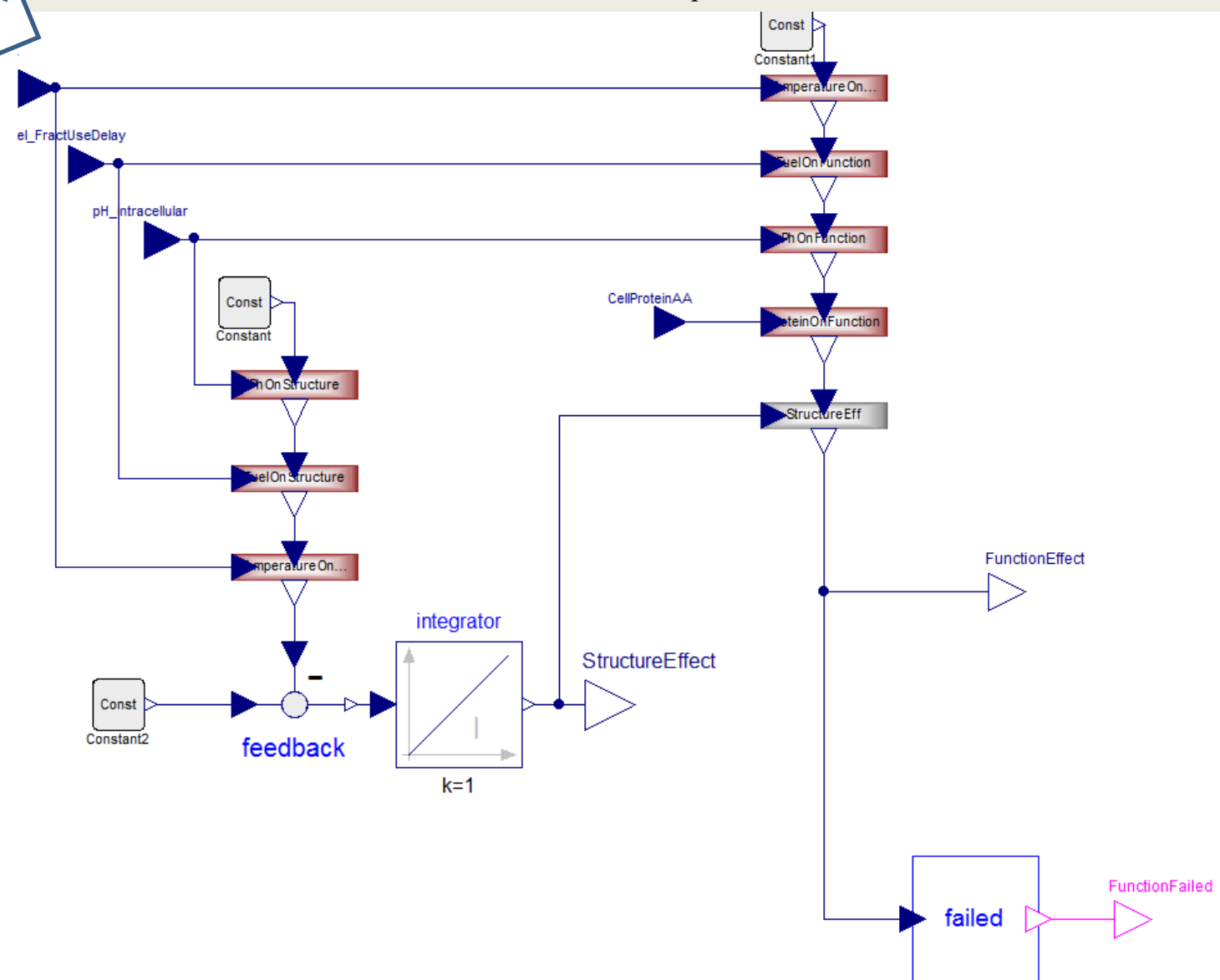
skeletalMuscle

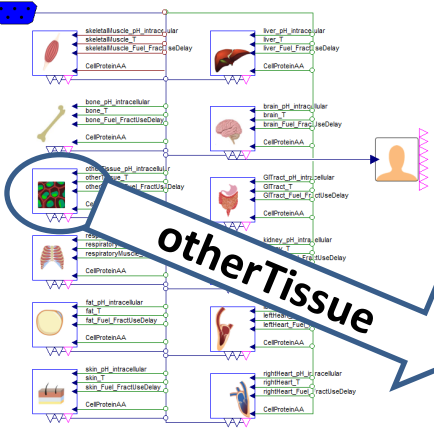
The instances of the same class with different parameters



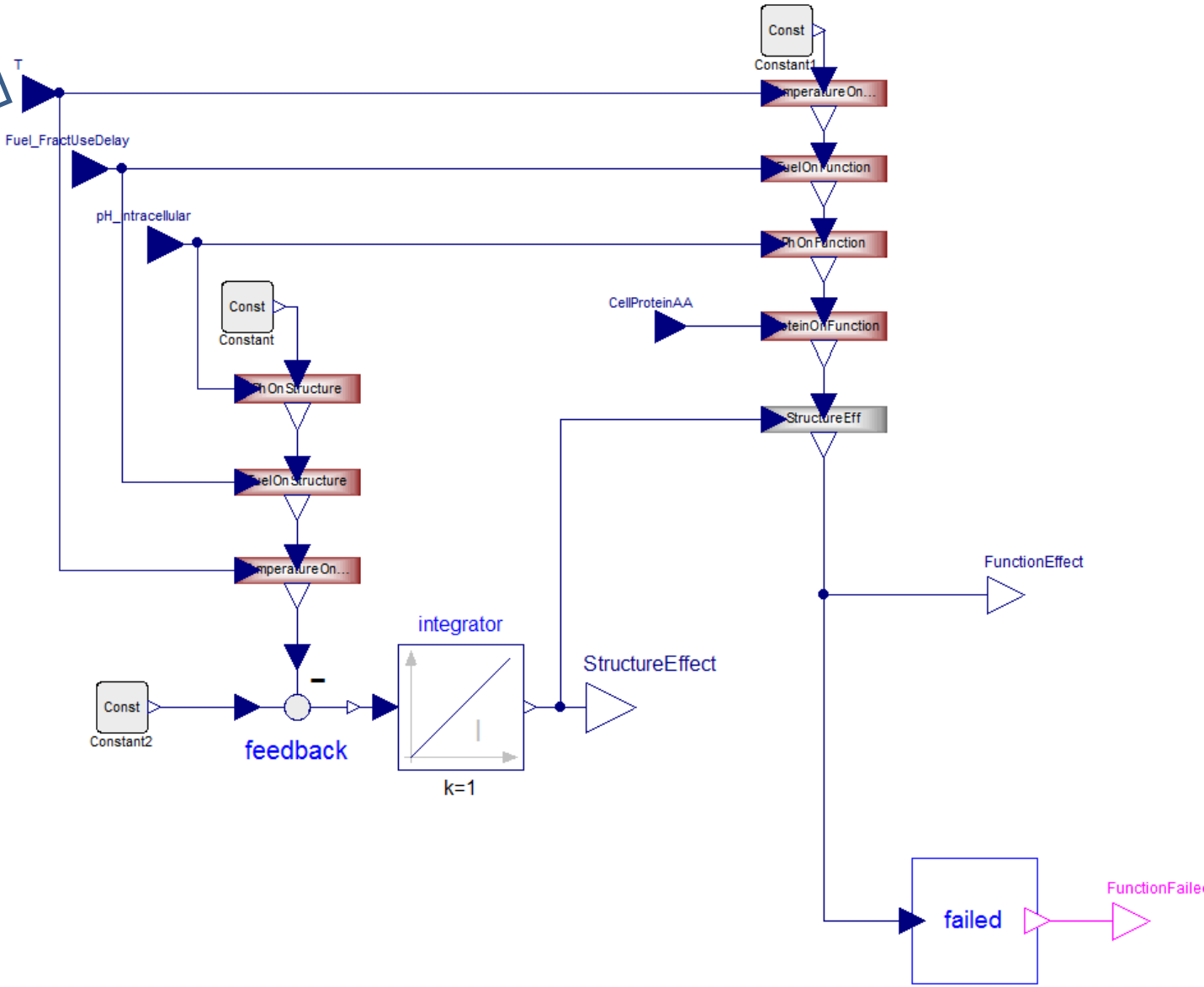


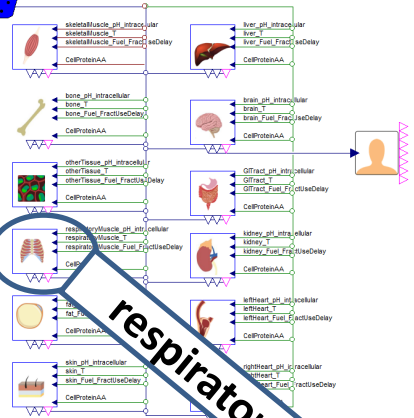
The instances of the same class with different parameters





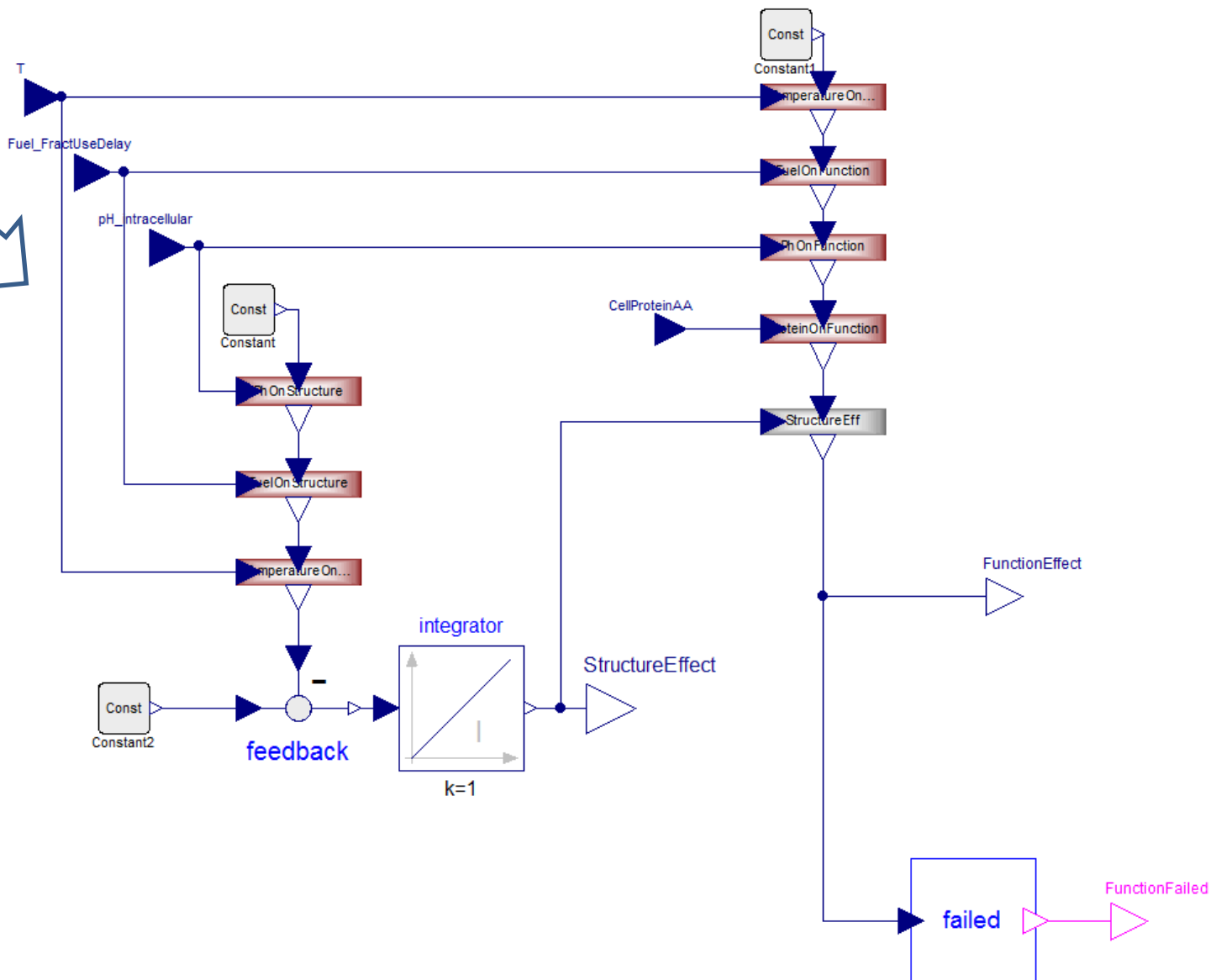
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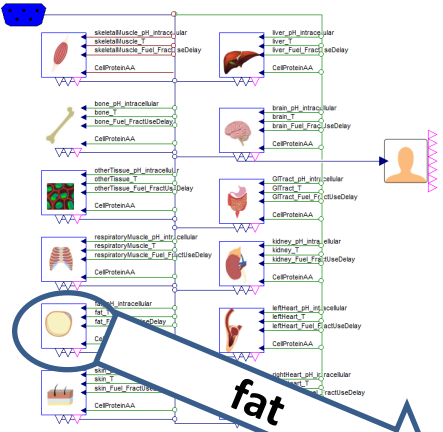




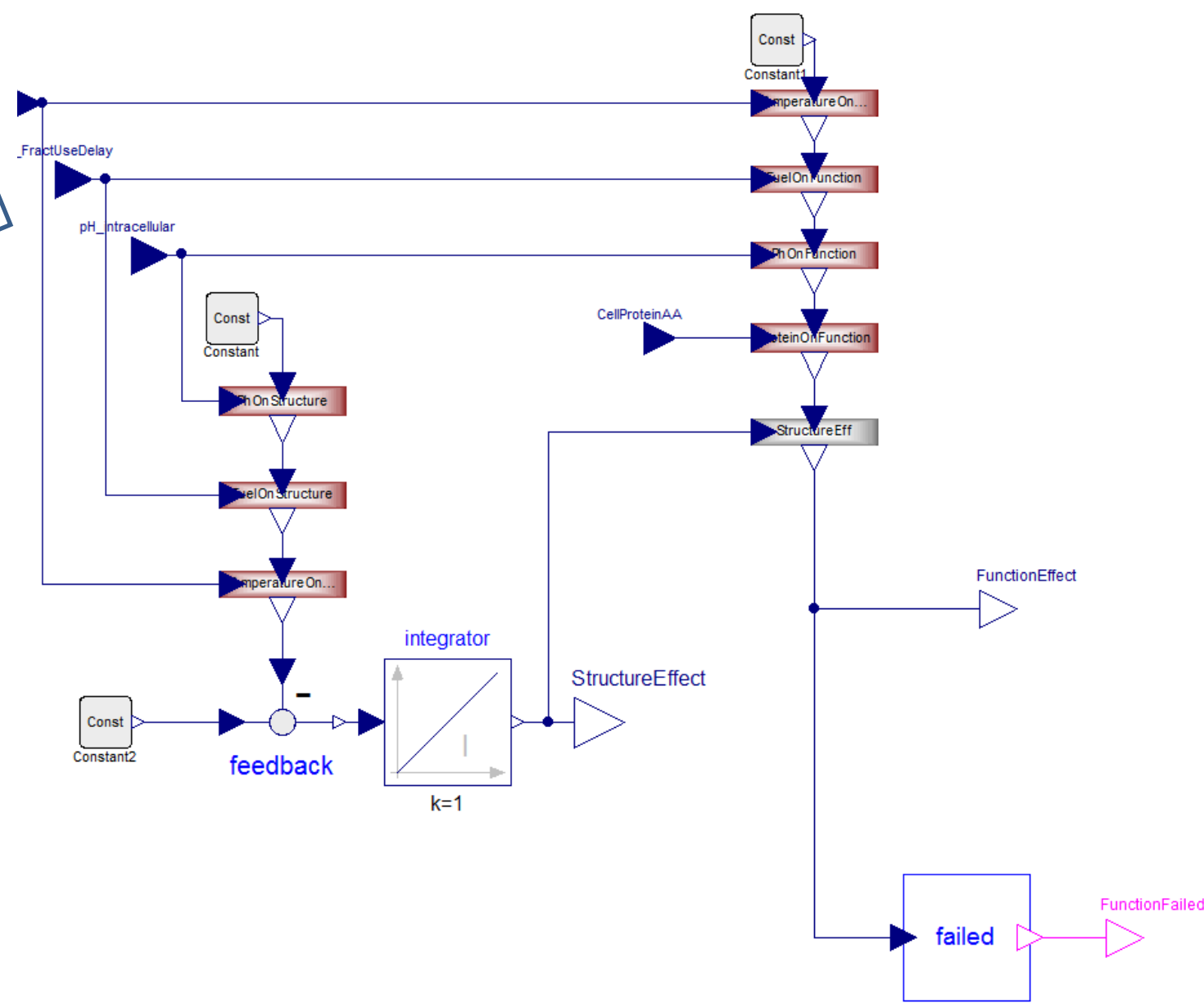
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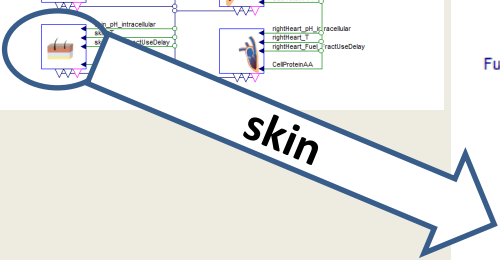
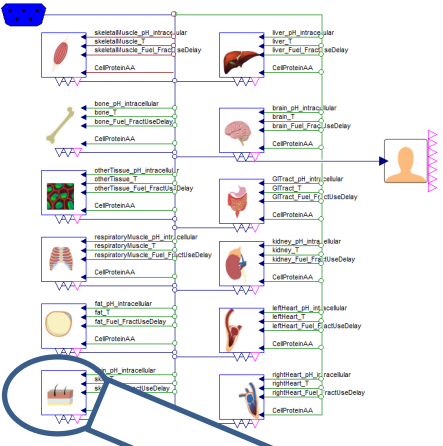
respiratoryMuscle



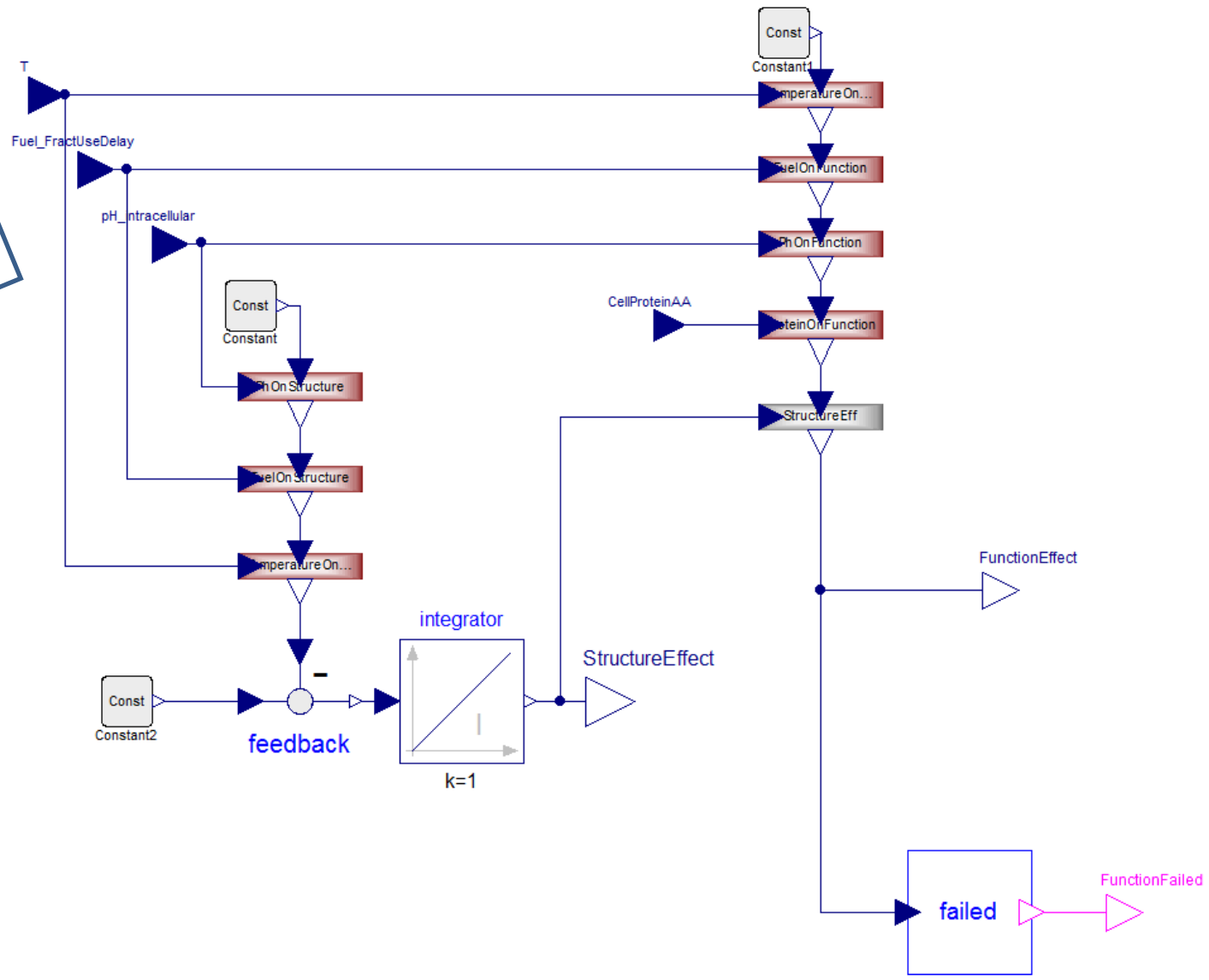


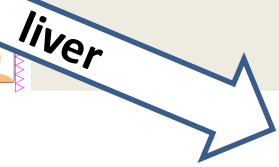
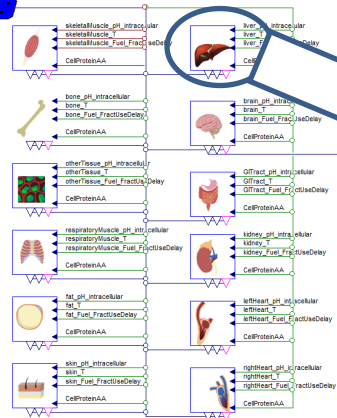
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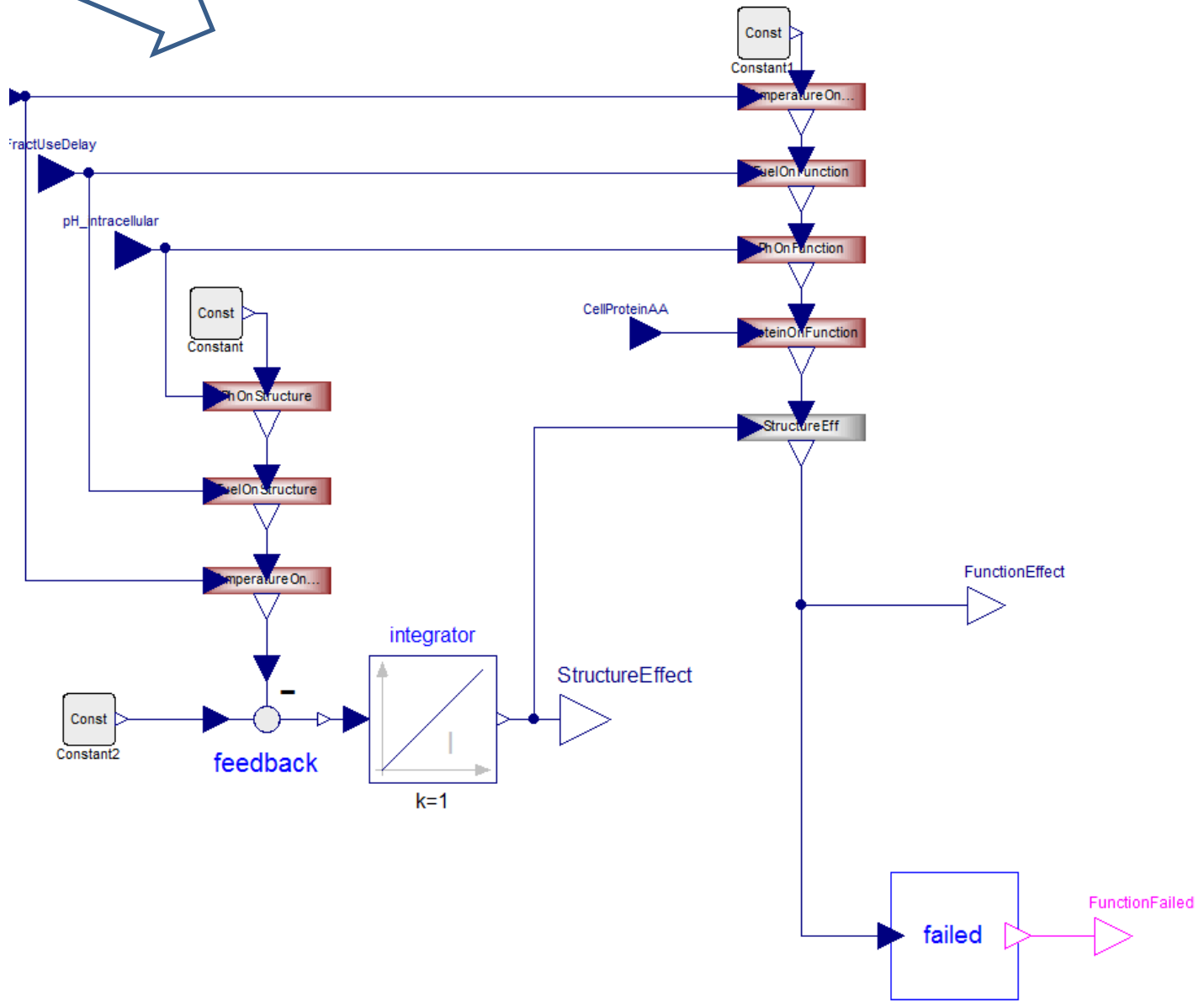


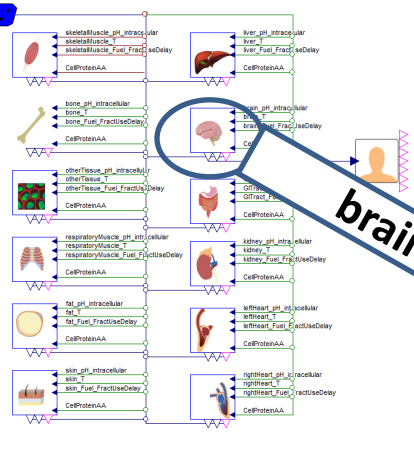
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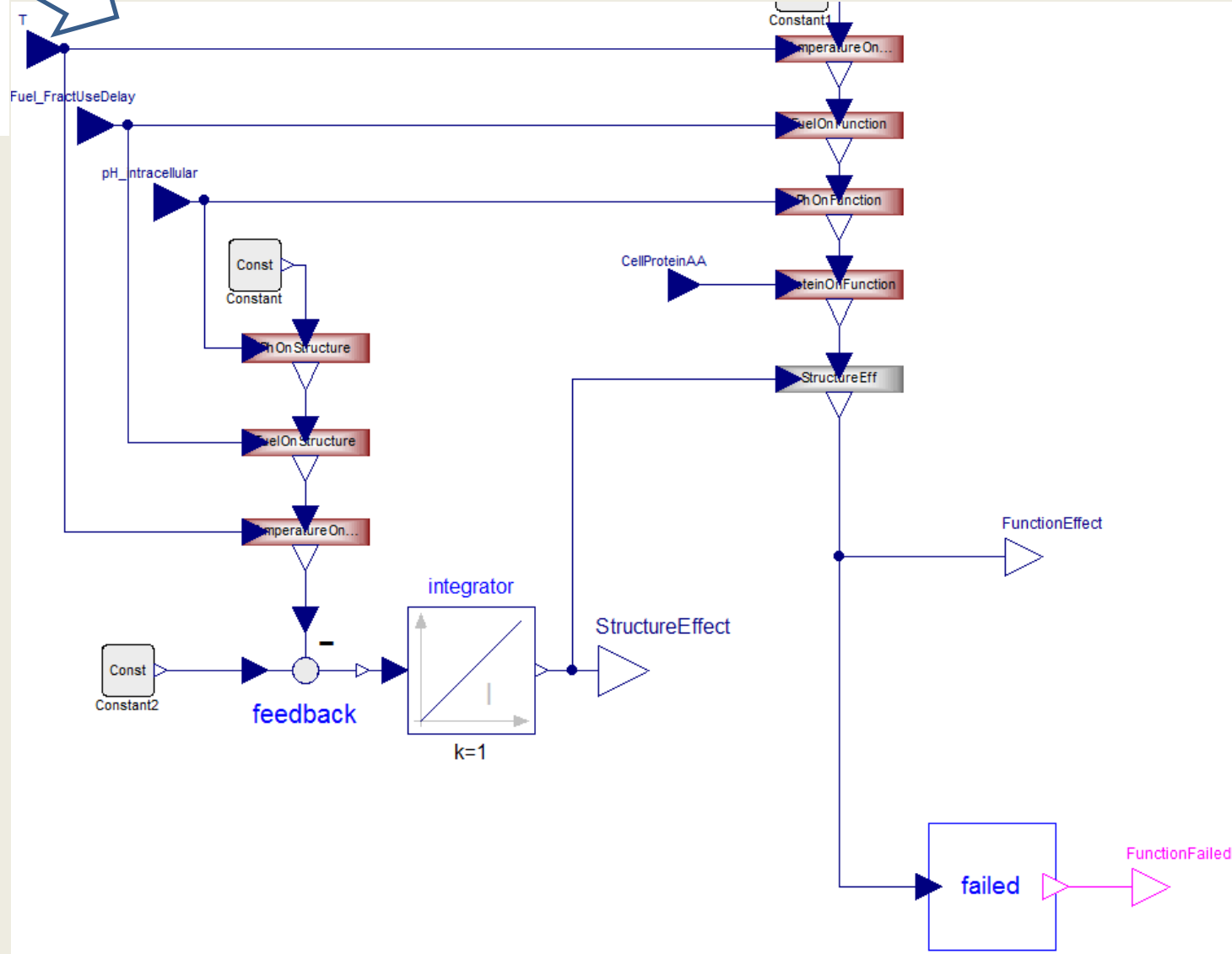
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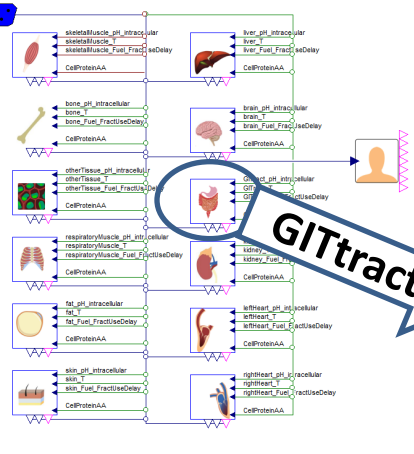




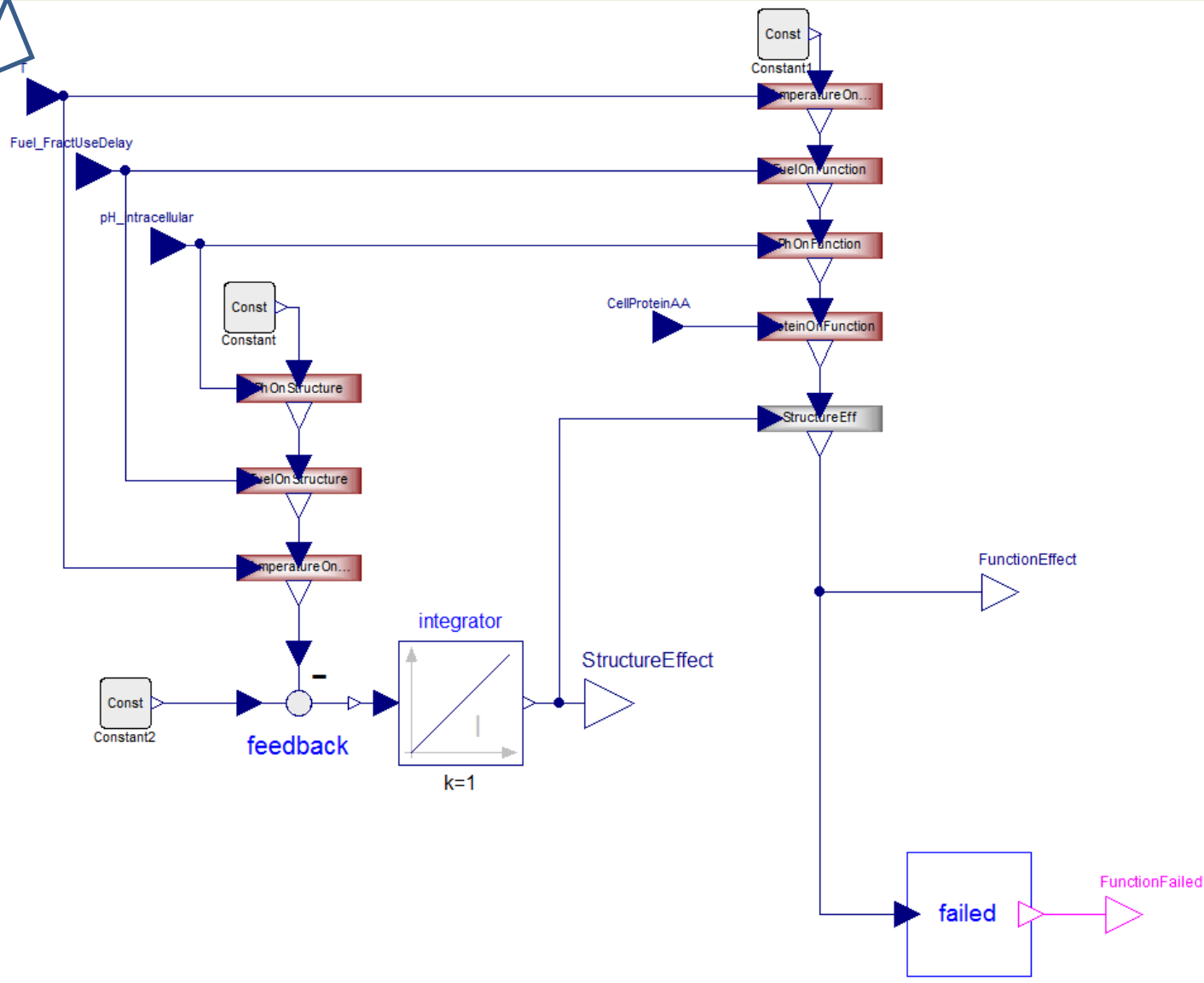
brain

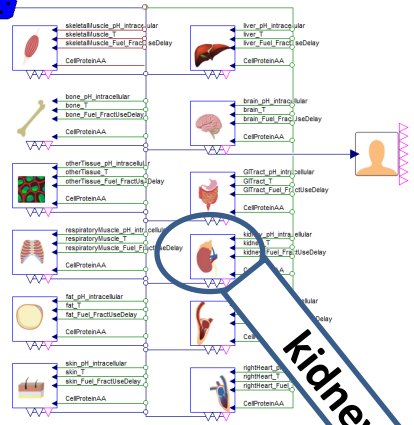
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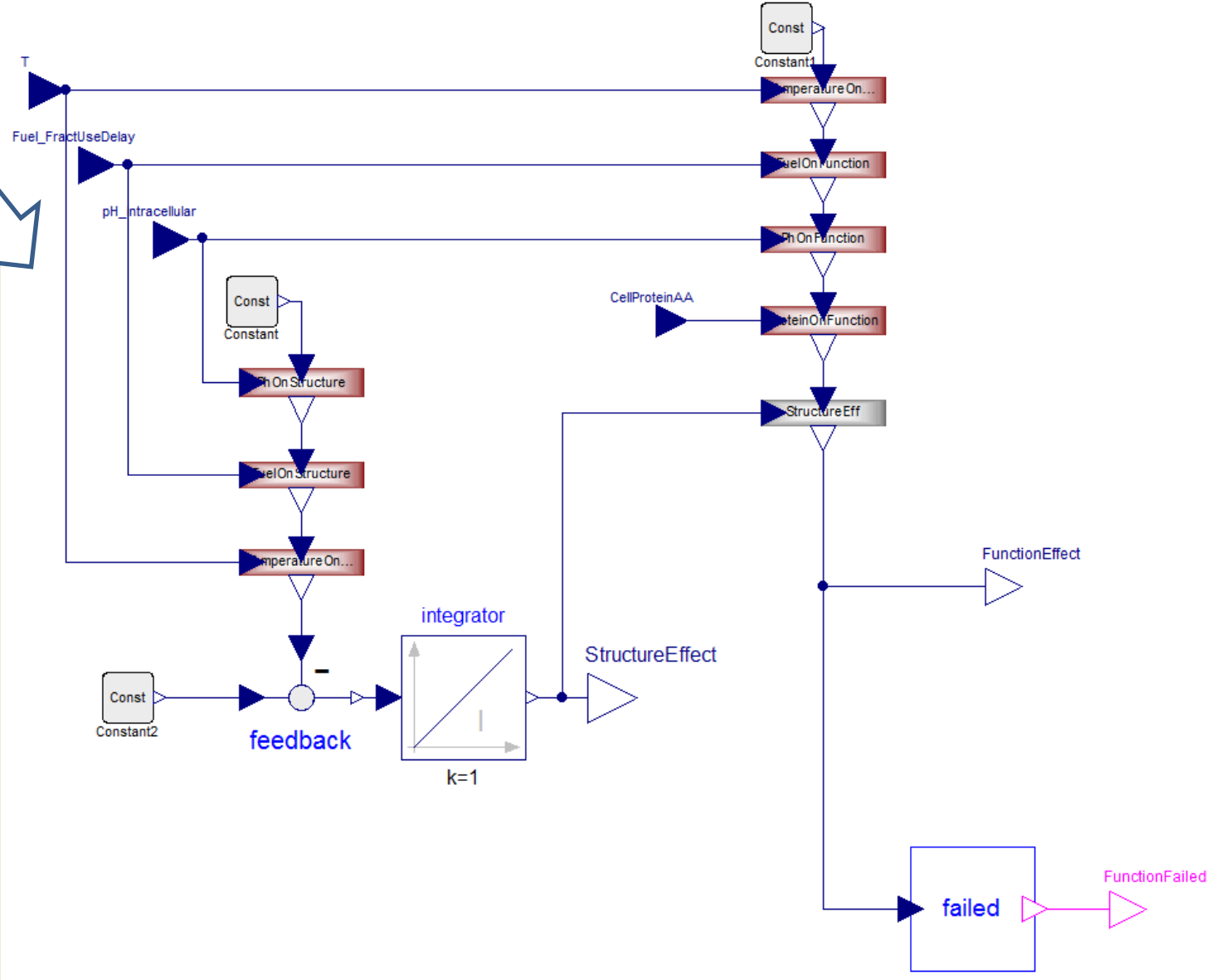


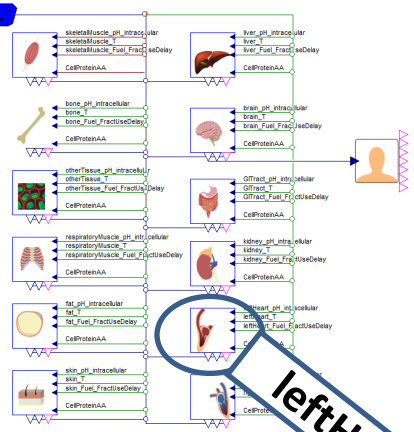
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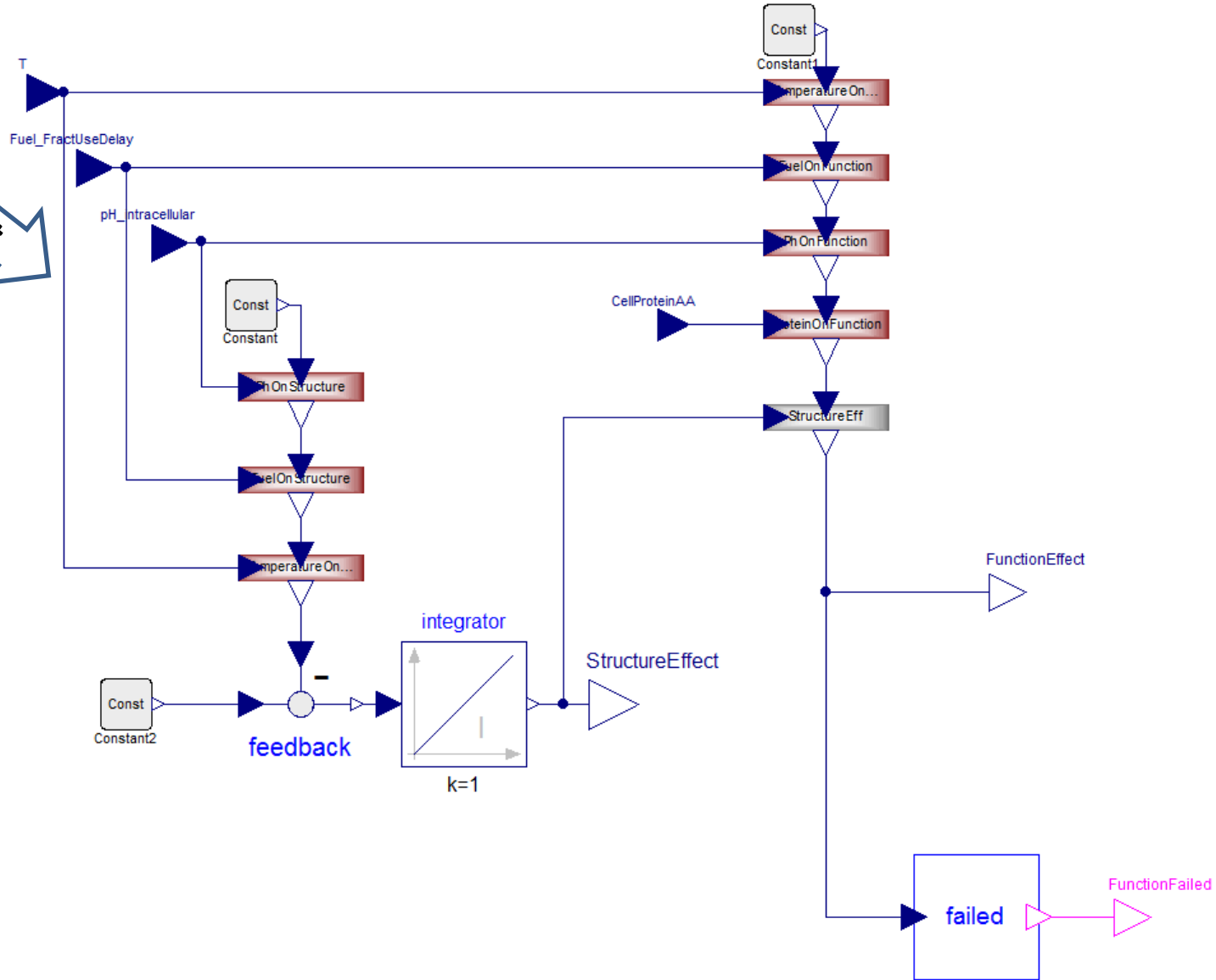


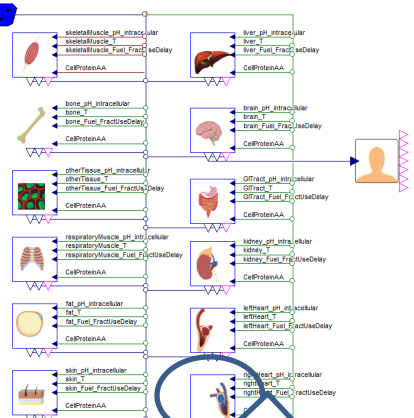
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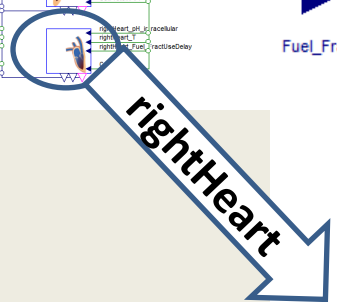


The instances of the same class with different parameters





The instances of the same class with different parameters



rightHeart

