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- <sbml xmlns="http://www.sbml.org/sbml/level2/version3" level="2"
  version="3">
- <model id="Model_1" name="Reduced IGFR">
- <notes>
  <body xmlns="http://www.w3.org/1999/xhtml" />
  </notes>
- <listOfUnitDefinitions>
- <unitDefinition id="time">
- <listOfUnits>
  <unit kind="second" multiplier="60" />
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  </unitDefinition>
- <unitDefinition id="substance">
- <listOfUnits>
  <unit kind="mole" scale="-6" />
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- <listOfCompartments>
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- <listOfSpecies>
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    initialConcentration="1" />
  <species id="species_3" name="x03" compartment="compartment_1"
    initialConcentration="1" />
  <species id="species_4" name="x04" compartment="compartment_1"
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  <species id="species_5" name="x05" compartment="compartment_1"
    initialConcentration="1" />
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    initialConcentration="1" />
  <species id="species_7" name="x07" compartment="compartment_1"
    initialConcentration="1" />
  <species id="species_8" name="x08" compartment="compartment_1"
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  <species id="species_9" name="x09" compartment="compartment_1"
    initialConcentration="1" />
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    initialConcentration="1" />
  <species id="species_11" name="x11" compartment="compartment_1"
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  <species id="species_12" name="x12" compartment="compartment_1"
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  initialConcentration="1" />
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- <listOfReactants>
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  <speciesReference species="species_2" />
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- <listOfProducts>
  <speciesReference species="species_3" />
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- <apply>
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- <apply>
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  <ci>species_2</ci>
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- <apply>
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  <ci>species_3</ci>
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- <reaction id="reaction_2" name="reaction 02">
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  <speciesReference species="species_3" />
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- <listOfProducts>
  <speciesReference species="species_4" />
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- <kineticLaw>

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- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
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- <reaction id="reaction_3" name="reaction 03">
- <listOfReactants>
  <speciesReference species="species_5" />
  <speciesReference species="species_3" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_40" />
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  <speciesReference species="species_40" />
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  <speciesReference species="species_3" />
  </listOfProducts>
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  <ci>k1</ci>
  <ci>species_40</ci>
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</kineticLaw>
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- <reaction id="reaction_5" name="reaction 05" reversible="false">
- <listOfReactants>
  <speciesReference species="species_6" />
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- <listOfProducts>
  <speciesReference species="species_5" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
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  <ci>k1</ci>
  <ci>species_6</ci>
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</math>

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- <listOfParameters>
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- <reaction id="reaction_6" name="reaction 06">
- <listOfReactants>
  <speciesReference species="species_5" />
  <speciesReference species="species_19" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_41" />
  </listOfProducts>
- <kineticLaw>
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- <apply>
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- <apply>
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- <apply>
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- <apply>
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  </apply>
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- <reaction id="reaction_7" name="reaction 07" reversible="false">
- <listOfReactants>
  <speciesReference species="species_41" />
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- <listOfProducts>
  <speciesReference species="species_7" />
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- <kineticLaw>

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- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
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- <reaction id="reaction_8" name="reaction 08">
- <listOfReactants>
  <speciesReference species="species_5" />
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</listOfReactants>
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</listOfProducts>
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- <apply>
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- <apply>
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  <ci>k1</ci>
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  <ci>species_37</ci>
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- <apply>
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  <ci>k2</ci>
  <ci>species_42</ci>
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  </apply>
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  <parameter id="k2" value="0.1" />
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- <reaction id="reaction_9" name="reaction 09" reversible="false">

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- <listOfReactants>
  <speciesReference species="species_42" />
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- <listOfProducts>
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  </listOfProducts>
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- <reaction id="reaction_10" name="reaction 10" reversible="false">
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- <listOfProducts>
  <speciesReference species="species_5" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
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  <ci>k1</ci>
  <ci>species_7</ci>
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  </listOfParameters>
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- <reaction id="reaction_11" name="reaction 11">
- <listOfReactants>
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  <speciesReference species="species_3" />
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- <listOfProducts>
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- <apply>
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- <apply>
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  <ci>species_3</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_43</ci>
  </apply>
  </apply>
  </apply>
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  <parameter id="k2" value="0.1" />
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  </reaction>
- <reaction id="reaction_12" name="reaction 12" reversible="false">
- <listOfReactants>
  <speciesReference species="species_43" />
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- <listOfProducts>
  <speciesReference species="species_9" />
  <speciesReference species="species_3" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
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  <ci>k1</ci>
  <ci>species_43</ci>
  </apply>
  </math>
- <listOfParameters>
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  </listOfParameters>
  </kineticLaw>

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    </reaction>
- <reaction id="reaction_13" name="reaction 13">
- <listOfReactants>
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- <listOfProducts>
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- <apply>
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  <ci>species_6</ci>
  </apply>
- <apply>
  <times />
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  <ci>species_44</ci>
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  </apply>
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- <listOfParameters>
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  <parameter id="k2" value="0.1" />
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- <reaction id="reaction_14" name="reaction 14" reversible="false">
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- <listOfProducts>
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  <speciesReference species="species_6" />
  </listOfProducts>
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- <apply>
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</kineticLaw>
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- <listOfProducts>
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</listOfProducts>
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- <reaction id="reaction_16" name="reaction 16">
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</listOfReactants>
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</listOfProducts>
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- <apply>
  <times />
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  </reaction>
- <reaction id="reaction_17" name="reaction 17" reversible="false">
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- <listOfProducts>
  <speciesReference species="species_11" />
  <speciesReference species="species_13" />
  </listOfProducts>
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- <reaction id="reaction_18" name="reaction 18">
- <listOfReactants>
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  </listOfReactants>
- <listOfProducts>
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  </listOfProducts>
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- <reaction id="reaction_19" name="reaction 19" reversible="false">
- <listOfReactants>
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- <listOfProducts>
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  <speciesReference species="species_14" />
  </listOfProducts>
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- <reaction id="reaction_20" name="reaction 20">
- <listOfReactants>
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    <speciesReference species="species_22" />
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- <apply>
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  <ci>species_22</ci>
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- <apply>
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  </apply>
  </apply>
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  <parameter id="k2" value="0.1" />
  </listOfParameters>
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- <reaction id="reaction_21" name="reaction 21" reversible="false">
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  <speciesReference species="species_22" />
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- <listOfParameters>
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  </listOfParameters>
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- <reaction id="reaction_23" name="reaction 23">
- <listOfReactants>
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- <listOfProducts>
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  </listOfProducts>
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- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
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- <apply>
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- <apply>
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  <ci>species_9</ci>
  <ci>species_11</ci>
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- <apply>
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<ci>k2</ci>
<ci>species_15</ci>
  </apply>
</apply>
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- <listOfParameters>
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  <parameter id="k2" value="0.1" />
</listOfParameters>
</kineticLaw>
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- <reaction id="reaction_24" name="reaction 24">
- <listOfReactants>
  <speciesReference species="species_16" />
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</listOfReactants>
- <listOfProducts>
  <speciesReference species="species_48" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
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- <apply>
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- <apply>
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  <ci>species_16</ci>
  <ci>species_15</ci>
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- <apply>
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  </apply>
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- <listOfParameters>
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  <parameter id="k2" value="0.1" />
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</kineticLaw>
</reaction>
- <reaction id="reaction_25" name="reaction 25" reversible="false">
- <listOfReactants>

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    <speciesReference species="species_48" />
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- <listOfProducts>
  <speciesReference species="species_17" />
  <speciesReference species="species_15" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
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  <ci>species_48</ci>
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</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_26" name="reaction 26">
- <listOfReactants>
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  <speciesReference species="species_14" />
</listOfReactants>
- <listOfProducts>
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</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
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- <apply>
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  <ci>species_17</ci>
  <ci>species_14</ci>
  </apply>
- <apply>
  <times />
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  <ci>species_49</ci>
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- <listOfParameters>
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  <parameter id="k2" value="0.1" />
  </listOfParameters>
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  </reaction>
- <reaction id="reaction_27" name="reaction 27" reversible="false">
- <listOfReactants>
  <speciesReference species="species_49" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_16" />
  <speciesReference species="species_14" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_49</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_28" name="reaction 28">
- <listOfReactants>
  <speciesReference species="species_18" />
  <speciesReference species="species_17" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_50" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_18</ci>
  <ci>species_17</ci>
  </apply>

```

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- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_50</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_29" name="reaction 29" reversible="false">
- <listOfReactants>
  <speciesReference species="species_50" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_19" />
  <speciesReference species="species_17" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_50</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_30" name="reaction 30">
- <listOfReactants>
  <speciesReference species="species_19" />
  <speciesReference species="species_20" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_51" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>

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- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_19</ci>
  <ci>species_20</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_51</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_31" name="reaction 31" reversible="false">
- <listOfReactants>
  <speciesReference species="species_51" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_18" />
  <speciesReference species="species_20" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_51</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_32" name="reaction 32">
- <listOfReactants>
  <speciesReference species="species_21" />
  <speciesReference species="species_6" />
  </listOfReactants>

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- <listOfProducts>
  <speciesReference species="species_52" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
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  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_21</ci>
  <ci>species_6</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_52</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_33" name="reaction 33" reversible="false">
- <listOfReactants>
  <speciesReference species="species_52" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_22" />
  <speciesReference species="species_6" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_52</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />

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    </listOfParameters>
    </kineticLaw>
  </reaction>
- <reaction id="reaction_34" name="reaction 34" reversible="false">
- <listOfReactants>
  <speciesReference species="species_22" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_21" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_22</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_35" name="reaction 35">
- <listOfReactants>
  <speciesReference species="species_21" />
  <speciesReference species="species_24" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_53" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_21</ci>
  <ci>species_24</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_53</ci>

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    </apply>
    </apply>
    </apply>
    </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_36" name="reaction 36" reversible="false">
- <listOfReactants>
  <speciesReference species="species_53" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_23" />
  <speciesReference species="species_24" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_53</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_37" name="reaction 37" reversible="false">
- <listOfReactants>
  <speciesReference species="species_23" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_21" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_23</ci>
  </apply>
  </math>
- <listOfParameters>

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<parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_38" name="reaction 38">
- <listOfReactants>
  <speciesReference species="species_25" />
  <speciesReference species="species_22" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_54" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_25</ci>
  <ci>species_22</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_54</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_39" name="reaction 39" reversible="false">
- <listOfReactants>
  <speciesReference species="species_54" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_26" />
  <speciesReference species="species_22" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">

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- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_54</ci>
  </apply>
</math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_40" name="reaction 40" reversible="false">
- <listOfReactants>
  <speciesReference species="species_26" />
</listOfReactants>
- <listOfProducts>
  <speciesReference species="species_25" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_26</ci>
  </apply>
</math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_41" name="reaction 41">
- <listOfReactants>
  <speciesReference species="species_27" />
  <speciesReference species="species_22" />
</listOfReactants>
- <listOfProducts>
  <speciesReference species="species_55" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>

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```

<times />
<ci>k1</ci>
<ci>species_27</ci>
<ci>species_22</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_55</ci>
    </apply>
    </apply>
    </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_42" name="reaction 42" reversible="false">
- <listOfReactants>
  <speciesReference species="species_55" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_28" />
  <speciesReference species="species_22" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_55</ci>
    </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_43" name="reaction 43" reversible="false">
- <listOfReactants>
  <speciesReference species="species_28" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_27" />
  </listOfProducts>
- <kineticLaw>

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- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_28</ci>
  </apply>
</math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_44" name="reaction 44">
- <listOfReactants>
  <speciesReference species="species_29" />
  <speciesReference species="species_25" />
</listOfReactants>
- <listOfProducts>
  <speciesReference species="species_56" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_29</ci>
  <ci>species_25</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_56</ci>
  </apply>
  </apply>
  </apply>
</math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_45" name="reaction 45" reversible="false">

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- <listOfReactants>
  <speciesReference species="species_56" />
</listOfReactants>
- <listOfProducts>
  <speciesReference species="species_30" />
  <speciesReference species="species_25" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_56</ci>
  </apply>
</math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_46" name="reaction 46">
- <listOfReactants>
  <speciesReference species="species_29" />
  <speciesReference species="species_27" />
</listOfReactants>
- <listOfProducts>
  <speciesReference species="species_57" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_29</ci>
  <ci>species_27</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_57</ci>
  </apply>
  </apply>
  </apply>

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    </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_47" name="reaction 47" reversible="false">
- <listOfReactants>
  <speciesReference species="species_57" />
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- <listOfProducts>
  <speciesReference species="species_30" />
  <speciesReference species="species_27" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_57</ci>
  </apply>
</math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_48" name="reaction 48">
- <listOfReactants>
  <speciesReference species="species_30" />
  <speciesReference species="species_19" />
</listOfReactants>
- <listOfProducts>
  <speciesReference species="species_58" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_30</ci>
  <ci>species_19</ci>

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    </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_58</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_49" name="reaction 49" reversible="false">
- <listOfReactants>
  <speciesReference species="species_58" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_29" />
  <speciesReference species="species_19" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_58</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_50" name="reaction 50">
- <listOfReactants>
  <speciesReference species="species_30" />
  <speciesReference species="species_22" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_59" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />

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    <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_30</ci>
  <ci>species_22</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_59</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_51" name="reaction 51" reversible="false">
- <listOfReactants>
  <speciesReference species="species_59" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_31" />
  <speciesReference species="species_22" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
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  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_59</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_52" name="reaction 52" reversible="false">
- <listOfReactants>
  <speciesReference species="species_31" />
  </listOfReactants>

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- <listOfProducts>
  <speciesReference species="species_30" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_31</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_53" name="reaction 53">
- <listOfReactants>
  <speciesReference species="species_32" />
  <speciesReference species="species_30" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_60" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_32</ci>
  <ci>species_30</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_60</ci>
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  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />

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    </listOfParameters>
    </kineticLaw>
  </reaction>
- <reaction id="reaction_54" name="reaction 54" reversible="false">
- <listOfReactants>
  <speciesReference species="species_60" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_33" />
  <speciesReference species="species_30" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_60</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_55" name="reaction 55" reversible="false">
- <listOfReactants>
  <speciesReference species="species_33" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_32" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
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  <ci>k1</ci>
  <ci>species_33</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_56" name="reaction 56">
- <listOfReactants>
  <speciesReference species="species_34" />

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    <speciesReference species="species_32" />
    </listOfReactants>
- <listOfProducts>
    <speciesReference species="species_35" />
    </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
    <times />
    <ci>compartment_1</ci>
- <apply>
    <minus />
- <apply>
    <times />
    <ci>k1</ci>
    <ci>species_34</ci>
    <ci>species_32</ci>
    </apply>
- <apply>
    <times />
    <ci>k2</ci>
    <ci>species_35</ci>
    </apply>
    </apply>
    </apply>
    </math>
- <listOfParameters>
    <parameter id="k1" value="0.1" />
    <parameter id="k2" value="0.1" />
    </listOfParameters>
    </kineticLaw>
    </reaction>
- <reaction id="reaction_57" name="reaction 57">
- <listOfReactants>
    <speciesReference species="species_36" />
    <speciesReference species="species_19" />
    </listOfReactants>
- <listOfProducts>
    <speciesReference species="species_61" />
    </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
    <times />
    <ci>compartment_1</ci>
- <apply>
    <minus />
- <apply>
    <times />

```

```

<ci>k1</ci>
<ci>species_36</ci>
<ci>species_19</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_61</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_58" name="reaction 58" reversible="false">
- <listOfReactants>
  <speciesReference species="species_61" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_37" />
  <speciesReference species="species_19" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_61</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_59" name="reaction 59">
- <listOfReactants>
  <speciesReference species="species_36" />
  <speciesReference species="species_35" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_62" />
  </listOfProducts>
- <kineticLaw>

```

```

- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_36</ci>
  <ci>species_35</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_62</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_60" name="reaction 60" reversible="false">
- <listOfReactants>
  <speciesReference species="species_62" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_37" />
  <speciesReference species="species_35" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_62</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_61" name="reaction 61">

```

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- <listOfReactants>
  <speciesReference species="species_37" />
  <speciesReference species="species_38" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_63" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_37</ci>
  <ci>species_38</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_63</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_62" name="reaction 62" reversible="false">
- <listOfReactants>
  <speciesReference species="species_63" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_36" />
  <speciesReference species="species_38" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_63</ci>

```

```

    </apply>
    </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_63" name="reaction 63">
- <listOfReactants>
  <speciesReference species="species_38" />
  <speciesReference species="species_35" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_64" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_38</ci>
  <ci>species_35</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_64</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_64" name="reaction 64" reversible="false">
- <listOfReactants>
  <speciesReference species="species_64" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_39" />
  <speciesReference species="species_35" />

```

```

    </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_64</ci>
  </apply>
</math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
</listOfParameters>
</kineticLaw>
</reaction>
- <reaction id="reaction_65" name="reaction 65">
- <listOfReactants>
  <speciesReference species="species_38" />
  <speciesReference species="species_22" />
</listOfReactants>
- <listOfProducts>
  <speciesReference species="species_65" />
</listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
- <apply>
  <minus />
- <apply>
  <times />
  <ci>k1</ci>
  <ci>species_38</ci>
  <ci>species_22</ci>
  </apply>
- <apply>
  <times />
  <ci>k2</ci>
  <ci>species_65</ci>
  </apply>
  </apply>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  <parameter id="k2" value="0.1" />
</listOfParameters>
</kineticLaw>

```



```

    </reaction>
- <reaction id="reaction_66" name="reaction 66" reversible="false">
- <listOfReactants>
  <speciesReference species="species_65" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_39" />
  <speciesReference species="species_22" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_65</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
- <reaction id="reaction_67" name="reaction 67" reversible="false">
- <listOfReactants>
  <speciesReference species="species_39" />
  </listOfReactants>
- <listOfProducts>
  <speciesReference species="species_38" />
  </listOfProducts>
- <kineticLaw>
- <math xmlns="http://www.w3.org/1998/Math/MathML">
- <apply>
  <times />
  <ci>compartment_1</ci>
  <ci>k1</ci>
  <ci>species_39</ci>
  </apply>
  </math>
- <listOfParameters>
  <parameter id="k1" value="0.1" />
  </listOfParameters>
  </kineticLaw>
  </reaction>
  </listOfReactions>
</model>
</sbml>

```