Web Service: SBMLmod

Web Service: SBMLmod

Target Namespace: http://esysbio.org/service/bio/SBMLmod

Port ***SBMLmodSOAP*** *Port type* *Source code*

Location: http://sbmlmod.uit.no:8080/sbmlmod
Protocol: SOAP
Default style: document
Transport protocol: SOAP over HTTP
Operations:

1. *AddBoundsToKineticLaw* *Detail* *Source code*
2. *AddBoundsToKineticLawBase64Encoded* *Detail* *Source code*
3. *AddBoundsToKineticLawGzippedBase64Encoded* *Detail* *Source code*
4. *AddBoundsToKineticLawText* *Detail* *Source code*
5. *AddKineticLawParameter* *Detail* *Source code*
6. *GetVersion* *Detail* *Source code*
7. *ReplaceGlobalParameters* *Detail* *Source code*
8. *ReplaceGlobalParametersBase64Encoded* *Detail* *Source code*
9. *ReplaceGlobalParametersGzippedBase64Encoded* *Detail* *Source code*
10. *ReplaceGlobalParametersText* *Detail* *Source code*
11. *ReplaceInitialConcentrationsOfSpecies* *Detail* *Source code*
12. *ReplaceInitialConcentrationsOfSpeciesBase64Encoded* *Detail* *Source code*
13. *ReplaceInitialConcentrationsOfSpeciesGzippedBase64Encoded* *Detail* *Source code*
14. *ReplaceInitialConcentrationsOfSpeciesText* *Detail* *Source code*
15. *ReplaceKineticLawParameter* *Detail* *Source code*
16. *ReplaceKineticLawParameterBase64Encoded* *Detail* *Source code*
17. *ReplaceKineticLawParameterGzippedBase64Encoded* *Detail* *Source code*
18. *ReplaceKineticLawParameterText* *Detail* *Source code*
19. *ScaleGlobalParametersBase64Encoded* *Detail* *Source code*
20. *ScaleGlobalParametersGzippedBase64Encoded* *Detail* *Source code*
21. *ScaleGlobalParametersText* *Detail* *Source code*
22. *ScaleKineticLawParameter* *Detail* *Source code*
23. *ScaleKineticLawParameterBase64Encoded* *Detail* *Source code*
24. *ScaleKineticLawParameterGzippedBase64Encoded* *Detail* *Source code*
25. *ScaleKineticLawParameterText* *Detail* *Source code*
26. *ValidateSBMLModel* *Detail* *Source code*
27. *ValidateSBMLModelBase64Encoded* *Detail* *Source code*
28. *ValidateSBMLModelGzippedBase64Encoded* *Detail* *Source code*
29. *ValidateSBMLModelText* *Detail* *Source code*

Operations

Port type ***SBMLmod*** *Source code*

1. **AddBoundsToKineticLaw**
   Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.
SOAP action: http://esysbio.org/service/bio/SBMLmod/AddBoundsToKineticLaw
Input: AddBoundsToKineticLawRequest (soap:body, use = literal) *Source code*

> **parameters** type *AddBoundsToKineticLaw*
> Adds UPPER_BOUND and LOWER_BOUND to a kinetic law. If there is no kinetic law associated with the reaction, a kinetic law object will also be added to the reaction, before adding the bounds. DefaultUpperBound is by default set to 1000. It is also possible to use different upper bounds for each reaction, e.g. by using gene expression data. These upper bounds can be supplied in the DataFile, and the DataColumnNumber (default=2) will specifies which column in the data file should be used. If a data

file is used, then a mapping file must also be supplied. The mapping file must contain two columns, the first giving the IDs in the SBML model and the second giving the IDs matching the data file. The IDs of the data file are expected to be in column 1. Both the MappingFile and DataFile should contain a header.

- SbmlModelFiles - unbounded; type *string*
- DefaultValue - optional; type *int*
  - DataColumnNumber - optional; type *int*
  - MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
  - MappingFile - optional; type *string*
  - DataFile type *string*
- BatchMode - optional; type *boolean*

Output: AddBoundsToKineticLawResponse (soap:body, use = literal) *Source code*

parameters type *AddBoundsToKineticLawResponse*

- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text

- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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2. **AddBoundsToKineticLawBase64Encoded**
   Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/AddBoundsToKineticLawBase64Encoded

Input: AddBoundsToKineticLawBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *AddBoundsToKineticLawBase64Encoded*

- SbmlModelFiles - unbounded; type *string*
- DefaultValue type *int*
- DataFile - optional; type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: AddBoundsToKineticLawBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *AddBoundsToKineticLawBase64EncodedResponse*

- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text

- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

3. **AddBoundsToKineticLawGzippedBase64Encoded**
   Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/AddBoundsToKineticLawGzippedBase64Encoded

Input: AddBoundsToKineticLawGzippedBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *AddBoundsToKineticLawGzippedBase64Encoded*

- SbmlModelFiles - unbounded; type *string*
- DefaultValue type *int*
- DataFile - optional; type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: AddBoundsToKineticLawGzippedBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *AddBoundsToKineticLawGzippedBase64EncodedResponse*

- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*

- SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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4. **AddBoundsToKineticLawText**

Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/AddBoundsToKineticLawText

Input: AddBoundsToKineticLawTextRequest (soap:body, use = literal) *Source code*

parameters type *AddBoundsToKineticLawText*
- SbmlModelFiles - unbounded; type *string*
- DefaultValue type *int*
- DataFile - optional; type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: AddBoundsToKineticLawTextResponse (soap:body, use = literal) *Source code*

parameters type *AddBoundsToKineticLawTextResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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5. **AddKineticLawParameter**

Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/AddKineticLawParameter

Input: AddKineticLawParameterRequest (soap:body, use = literal) *Source code*

parameters type *AddKineticLawParameter*
Adds a new parameter to a kinetic law. If there is no kinetic law associated with the reaction, a kinetic law object will also be added to the reaction, before adding the parameter. The values of the new parameter for the different reactions should be in a tab delimited text file (Datafile). A mapping is then done between the datafile and the SBML model using the supplied mapping file. The mapping file must contain two columns, the first giving the IDs in the SBML model and the second giving the IDs matching the IDs of the DataFile. SBML model file, mapping file and data file must be given as input, as well as the ID of the parameter will be added. The IDs of the data file are expected to be in column 1. By default the IdColumnNumber=2, which means that the data in column 2 of the DataFile will be used by default values for the new parameter. Both the MappingFile and DataFile should contain a header.
- SbmlModelFiles - unbounded; type *string*
- ParameterId type *string*
- DefaultValue - optional; type *int*
  - DataColumnNumber - optional; type *int*
  - MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
  - MappingFile - optional; type *string*
  - DataFile type *string*
- BatchMode - optional; type *boolean*

Output: AddKineticLawParameterResponse (soap:body, use = literal) *Source code*

parameters type *AddKineticLawParameterResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*

- FaultMessage type *string*

---

6. **GetVersion**

Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/GetVersion

Input: GetVersionRequest (soap:body, use = literal) *Source code*

parameters type *GetVersion*
Returns the webservice version.

Output: GetVersionResponse (soap:body, use = literal) *Source code*

parameters type *GetVersionResponse*
- Version type *string*

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7. **ReplaceGlobalParameters**

Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceGlobalParameters

Input: ReplaceGlobalParametersRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceGlobalParameters*
Replaces the values of the global parameters in the SBML model with the supplied values from the datafile. The mapping file must contain two columns, the first giving the IDs in the SBML model and the second giving the IDs matching the IDs of the DataFile. SBML model file and data file must be given as input. If mapping file is not given as input, the IDs in the datafile are expected to be the same as in the model. The IDs of the data file are expected to be in column 1 and they must exactly match the id's of the parameters in the SBML file'. By default the IdColumnNumber=2, which means that the data in column 2 of the DataFile will be used by default. The DataFile should contain a header.
- DataColumnNumber - optional; type *int*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ReplaceGlobalParametersResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceGlobalParametersResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

8. **ReplaceGlobalParametersBase64Encoded**

Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceGlobalParametersBase64Encoded

Input: ReplaceGlobalParametersBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceGlobalParametersBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- MappingFile - optional; type *string*
- BatchMode - optional; type *boolean*

Output: ReplaceGlobalParametersBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceGlobalParametersBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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9. **ReplaceGlobalParametersGzippedBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceGlobalParametersGzippedBase64Encoded

Input: ReplaceGlobalParametersGzippedBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceGlobalParametersGzippedBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- MappingFile - optional; type *string*
- BatchMode - optional; type *boolean*

Output: ReplaceGlobalParametersGzippedBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceGlobalParametersGzippedBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

10. **ReplaceGlobalParametersText**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceGlobalParametersText

Input: ReplaceGlobalParametersTextRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceGlobalParametersText*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- MappingFile - optional; type *string*
- BatchMode - optional; type *boolean*

Output: ReplaceGlobalParametersTextResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceGlobalParametersTextResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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11. **ReplaceInitialConcentrationsOfSpecies**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceInitialConcentrationsOfSpecies

Input: ReplaceInitialConcentrationsOfSpeciesRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceInitialConcentrationsOfSpecies*
Edits the initial concentrations of species. Input is the SBML file and a file containing two columns, the first giving the Species ID and the second giving the new concentration value.
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- MappingFile - optional; type *string*

- DataColumnNumber - optional; type *int*
- BatchMode - optional; type *boolean*

Output: ReplaceInitialConcentrationsOfSpeciesResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceInitialConcentrationsOfSpeciesResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

12. **ReplaceInitialConcentrationsOfSpeciesBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceInitialConcentrationsOfSpeciesBase64Encoded

Input: ReplaceInitialConcentrationsOfSpeciesBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceInitialConcentrationsOfSpeciesBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- BatchMode - optional; type *boolean*

Output: ReplaceInitialConcentrationsOfSpeciesBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceInitialConcentrationsOfSpeciesBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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13. **ReplaceInitialConcentrationsOfSpeciesGzippedBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceInitialConcentrationsOfSpeciesGzippedBase64Encoded

Input: ReplaceInitialConcentrationsOfSpeciesGzippedBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceInitialConcentrationsOfSpeciesGzippedBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- BatchMode - optional; type *boolean*

Output: ReplaceInitialConcentrationsOfSpeciesGzippedBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceInitialConcentrationsOfSpeciesGzippedBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

14. **ReplaceInitialConcentrationsOfSpeciesText**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceInitialConcentrationsOfSpeciesText

Input: ReplaceInitialConcentrationsOfSpeciesTextRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceInitialConcentrationsOfSpeciesText*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- BatchMode - optional; type *boolean*

Output: ReplaceInitialConcentrationsOfSpeciesTextResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceInitialConcentrationsOfSpeciesTextResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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15. **ReplaceKineticLawParameter**

Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceKineticLawParameter

Input: ReplaceKineticLawParameterRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceKineticLawParameter*
Maps data between SBML model parameter and some columnbased data (e.g. gene expression data). The mapping file must contain two columns, the first giving the IDs in the SBML model and the second giving the IDs matching the IDs of the DataFile. SBML model file, mapping file and data file must be given as input, as well as the ID of the parameter that will gets its value replaced. The IDs of the data file are expected to be in column 1. By default the IdColumnNumber=2, which means that the data in column 2 of the DataFile will be used by default. Both the MappingFile and DataFile should contain a header.
- ParameterId type *string*
- DataColumnNumber - optional; type *int*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- MappingFile - optional; type *string*
- BatchMode - optional; type *boolean*

Output: ReplaceKineticLawParameterResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceKineticLawParameterResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

16. **ReplaceKineticLawParameterBase64Encoded**

Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceKineticLawParameterBase64Encoded

Input: ReplaceKineticLawParameterBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceKineticLawParameterBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- ParameterId type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ReplaceKineticLawParameterBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceKineticLawParameterBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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17. **ReplaceKineticLawParameterGzippedBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceKineticLawParameterGzippedBase64Encoded

Input: ReplaceKineticLawParameterGzippedBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceKineticLawParameterGzippedBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- ParameterId type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ReplaceKineticLawParameterGzippedBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceKineticLawParameterGzippedBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

18. **ReplaceKineticLawParameterText**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ReplaceKineticLawParameterText

Input: ReplaceKineticLawParameterTextRequest (soap:body, use = literal) *Source code*

parameters type *ReplaceKineticLawParameterText*
- SbmlModelFiles - unbounded; type *string*
- ParameterId type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ReplaceKineticLawParameterTextResponse (soap:body, use = literal) *Source code*

parameters type *ReplaceKineticLawParameterTextResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

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19. **ScaleGlobalParametersBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ScaleGlobalParametersBase64Encoded

Input: ScaleGlobalParametersBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ScaleGlobalParametersBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ScaleGlobalParametersBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ScaleGlobalParametersBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

20. **ScaleGlobalParametersGzippedBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ScaleGlobalParametersGzippedBase64Encoded

Input: ScaleGlobalParametersGzippedBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ScaleGlobalParametersGzippedBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ScaleGlobalParametersGzippedBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ScaleGlobalParametersGzippedBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

21. **ScaleGlobalParametersText**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ScaleGlobalParametersText

Input: ScaleGlobalParametersTextRequest (soap:body, use = literal) *Source code*

parameters type *ScaleGlobalParametersText*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ScaleGlobalParametersTextResponse (soap:body, use = literal) *Source code*

parameters type *ScaleGlobalParametersTextResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

22. **ScaleKineticLawParameter**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ScaleKineticLawParameter

Input: ScaleKineticLawParameterRequest (soap:body, use = literal) *Source code*

parameters type *ScaleKineticLawParameter*
Multiplies a kinetic law parameter with supplied columnbased data file (e.g. gene expression data). The mapping file must contain two columns, the first giving the IDs in the SBML model and the second giving the IDs matching the IDs of the DataFile. SBML model file, mapping file and data file must be given as input, as well as the ID of the parameter that will gets its value scaled. The IDs of the data file are expected to be in column 1. By default the IdColumnNumber=2, which means that the data in column 2 of the DataFile will be used by default. Both the MappingFile and DataFile should contain a header.
- ParameterId type *string*
- DataColumnNumber - optional; type *int*
- MergeMode type *string*
- SbmlModelFiles - unbounded; type *string*
- DataFile type *string*
- MappingFile - optional; type *string*
- BatchMode - optional; type *boolean*

Output: ScaleKineticLawParameterResponse (soap:body, use = literal) *Source code*

parameters type *ScaleKineticLawParameterResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

23. **ScaleKineticLawParameterBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ScaleKineticLawParameterBase64Encoded

Input: ScaleKineticLawParameterBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ScaleKineticLawParameterBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- ParameterId type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ScaleKineticLawParameterBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ScaleKineticLawParameterBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

24. **ScaleKineticLawParameterGzippedBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ScaleKineticLawParameterGzippedBase64Encoded

Input: ScaleKineticLawParameterGzippedBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ScaleKineticLawParameterGzippedBase64Encoded*
- SbmlModelFiles - unbounded; type *string*
- ParameterId type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ScaleKineticLawParameterGzippedBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ScaleKineticLawParameterGzippedBase64EncodedResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

25. **ScaleKineticLawParameterText**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ScaleKineticLawParameterText

Input: ScaleKineticLawParameterTextRequest (soap:body, use = literal) *Source code*

parameters type *ScaleKineticLawParameterText*
- SbmlModelFiles - unbounded; type *string*
- ParameterId type *string*
- DataFile type *string*
- DataColumnNumber - optional; type *int*
- MappingFile - optional; type *string*
- MergeMode - optional; type *MergeModeType* - type *string* with restriction - enum { 'MAX', 'MIN', 'SUM', 'MEAN', 'MEDIAN', 'CUSTOM' }
- BatchMode - optional; type *boolean*

Output: ScaleKineticLawParameterTextResponse (soap:body, use = literal) *Source code*

parameters type *ScaleKineticLawParameterTextResponse*
- SbmlModelFiles - unbounded; type *SbmlModelFilesType*
  - Name type *string*
  - SbmlModelFile type *string*
- Warnings - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

---

26. **ValidateSBMLModel**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ValidateSBMLModel

Input: ValidateSBMLModelRequest (soap:body, use = literal) *Source code*

parameters type *ValidateSBMLModel*
Validates an SBML model.
- SbmlModelFile type *string*

Output: ValidateSBMLModelResponse (soap:body, use = literal) *Source code*

parameters type *ValidateSBMLModelResponse*
Returns true if the SBML model is valid or returns the first error encountered.
- ModelIsValid type *boolean*
- ErrorMessages - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*

- FaultMessage type *string*

27. **ValidateSBMLModelBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ValidateSBMLModelBase64Encoded

Input: ValidateSBMLModelBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ValidateSBMLModelBase64Encoded*
- SbmlModelFile type *string*

Output: ValidateSBMLModelBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ValidateSBMLModelBase64EncodedResponse*
- ModelIsValid type *boolean*
- ErrorMessages - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

28. **ValidateSBMLModelGzippedBase64Encoded**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ValidateSBMLModelGzippedBase64Encoded

Input: ValidateSBMLModelGzippedBase64EncodedRequest (soap:body, use = literal) *Source code*

parameters type *ValidateSBMLModelGzippedBase64Encoded*
- SbmlModelFile type *string*

Output: ValidateSBMLModelGzippedBase64EncodedResponse (soap:body, use = literal) *Source code*

parameters type *ValidateSBMLModelGzippedBase64EncodedResponse*
- ModelIsValid type *boolean*
- ErrorMessages - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

29. **ValidateSBMLModelText**
Source code

Operation type: *Request-response.* The endpoint receives a message, and sends a correlated message.

SOAP action: http://esysbio.org/service/bio/SBMLmod/ValidateSBMLModelText

Input: ValidateSBMLModelTextRequest (soap:body, use = literal) *Source code*

parameters type *ValidateSBMLModelText*
- SbmlModelFile type *string*

Output: ValidateSBMLModelTextResponse (soap:body, use = literal) *Source code*

parameters type *ValidateSBMLModelTextResponse*
- ModelIsValid type *boolean*
- ErrorMessages - optional, unbounded; type *string*

Fault: SBMLmodFault (soap:fault, use = literal) *Source code*

fault type *SBMLmodFault*
A fault message, contains the type and free text
- FaultEnum type *FaultEnum*
- FaultMessage type *string*

WSDL source code

```
<?xml version="1.0"?>
<wsdl:definitions targetNamespace="http://esysbio.org/service/bio/SBMLmod" name="SBMLmod"
        xmlns:sbml="http://www.sbml.org/sbml/level2/version3"
```

```
    xmlns:sawsdl="http://www.w3.org/ns/sawsdl"
    xmlns:sbmlns="http://esysbio.org/schema/sbmlmod"
    xmlns:sbmlmns="http://esysbio.org/schema/sbmlmod"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
    xmlns:tns="http://esysbio.org/service/bio/SBMLmod"
    xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
>
    <wsdl:types>
        <xsd:schema targetNamespace="http://esysbio.org/service/bio/SBMLmod">
            <xsd:simpleType name="MergeModeType">
                <xsd:restriction base="xsd:string">
                    <xsd:enumeration value="MAX" />
                    <xsd:enumeration value="MIN" />
                    <xsd:enumeration value="SUM" />
                    <xsd:enumeration value="MEAN" />
                    <xsd:enumeration value="MEDIAN" />
                    <xsd:enumeration value="CUSTOM" />
                </xsd:restriction>
            </xsd:simpleType>
            <xsd:element name="ReplaceGlobalParameters">
                <xsd:annotation>
                    <xsd:documentation> Replaces the values of the global parameters in the SBML model with the
                    supplied values from the datafile. The mapping file must contain two columns, the first giving the
                    IDs in the SBML model and the second giving the IDs matching the IDs of the DataFile. SBML
                    model file and data file must be given as input. If mapping file is not given as input, the IDs in the
                    datafile are expected to be the same as in the model. The IDs of the data file are expected to be
                    in column 1 and they must exactly match the id's of the parameters in the SBML file'. By default
                    the IdColumnNumber=2, which means that the data in column 2 of the DataFile will be used by
                    default. The DataFile should contain a header. </xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element name="DataColumnNumber" type="xsd:int" minOccurs="0" maxOccurs="1" />
                        <xsd:element name="SbmlModelFiles" type="xsd:string"
                        sawsdl:modelReference="http://edamontology.org/data_0950
                        http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                        maxOccurs="unbounded" minOccurs="1" />
                        <xsd:element name="DataFile" type="xsd:string"
                        sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-extension/TSV
                        http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                        <xsd:element name="MappingFile" type="xsd:string" minOccurs="0" maxOccurs="1"
                        sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-extension/TSV
                        http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                        <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
                        minOccurs="0" />
                        <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>
            <xsd:element name="ReplaceGlobalParametersResponse">
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                        sawsdl:modelReference="http://edamontology.org/data_0950
                        http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                        maxOccurs="unbounded" minOccurs="1" />
                        <xsd:element name="Warnings" type="xsd:string" minOccurs="0" maxOccurs="unbounded"
                        sawsdl:modelReference="http://edamontology.org/data_0006 http://purl.org/edam/format/ANY
                        http://purl.org/webservices/transfer/INLINE http://purl.org/webservices/archive-
                        method/PLAIN_TEXT" />
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>
            <xsd:element name="ReplaceKineticLawParameter">
                <xsd:annotation>
                    <xsd:documentation> Maps data between SBML model parameter and some columnbased data
                    (e.g. gene expression data). The mapping file must contain two columns, the first giving the IDs in
                    the SBML model and the second giving the IDs matching the IDs of the DataFile. SBML model file,
                    mapping file and data file must be given as input, as well as the ID of the parameter that will gets
                    its value replaced. The IDs of the data file are expected to be in column 1. By default the
                    IdColumnNumber=2, which means that the data in column 2 of the DataFile will be used by default.
                    Both the MappingFile and DataFile should contain a header. </xsd:documentation>
```

```
        </xsd:annotation>
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="ParameterId" type="xsd:string" />
                <xsd:element name="DataColumnNumber" type="xsd:int" minOccurs="0" maxOccurs="1" />
                <!-- xsd:element name="MergeMode" type="xsd:string" / -->
                <xsd:element name="MergeMode" type="tns:MergeModeType" minOccurs="0"
                maxOccurs="1" />
                <xsd:element name="SbmlModelFiles" type="xsd:string"
                sawsdl:modelReference="http://edamontology.org/data_0950
                http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                maxOccurs="unbounded" minOccurs="1" />
                <xsd:element name="DataFile" type="xsd:string"
                sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-extension/TSV
                http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                <xsd:element name="MappingFile" type="xsd:string" minOccurs="0" maxOccurs="1"
                sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-extension/TSV
                http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ReplaceKineticLawParameterResponse">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                sawsdl:modelReference="http://edamontology.org/data_0950
                http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                maxOccurs="unbounded" minOccurs="1" />
                <xsd:element name="Warnings" type="xsd:string" minOccurs="0" maxOccurs="unbounded"
                sawsdl:modelReference="http://purl.org/edam/content-type/RAW_FILE
                http://purl.org/edam/format/ANY http://purl.org/webservices/transfer/INLINE
                http://purl.org/webservices/archive-method/PLAIN_TEXT" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ScaleKineticLawParameter">
        <xsd:annotation>
            <xsd:documentation> Multiplies a kinetic law parameter with supplied columnbased data file (e.g.
            gene expression data). The mapping file must contain two columns, the first giving the IDs in the
            SBML model and the second giving the IDs matching the IDs of the DataFile. SBML model file,
            mapping file and data file must be given as input, as well as the ID of the parameter that will gets
            its value scaled. The IDs of the data file are expected to be in column 1. By default the
            IdColumnNumber=2, which means that the data in column 2 of the DataFile will be used by default.
            Both the MappingFile and DataFile should contain a header. </xsd:documentation>
        </xsd:annotation>
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="ParameterId" type="xsd:string" />
                <xsd:element name="DataColumnNumber" type="xsd:int" minOccurs="0" maxOccurs="1" />
                <!-- xsd:element name="MergeMode" type="xsd:string" / -->
                <xsd:element name="MergeMode" type="xsd:string" minOccurs="1" maxOccurs="1" />
                <xsd:element name="SbmlModelFiles" type="xsd:string"
                sawsdl:modelReference="http://edamontology.org/data_0950
                http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                maxOccurs="unbounded" minOccurs="1" />
                <xsd:element name="DataFile" type="xsd:string"
                sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-extension/TSV
                http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                <xsd:element name="MappingFile" type="xsd:string" minOccurs="0" maxOccurs="1"
                sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-extension/TSV
                http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ScaleKineticLawParameterResponse">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                sawsdl:modelReference="http://edamontology.org/data_0950
                http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                maxOccurs="unbounded" minOccurs="1" />
```

```
                <xsd:element name="Warnings" type="xsd:string" minOccurs="0" maxOccurs="unbounded"
                sawsdl:modelReference="http://purl.org/edam/content-type/RAW_FILE
                http://purl.org/edam/format/ANY http://purl.org/webservices/transfer/INLINE
                http://purl.org/webservices/archive-method/PLAIN_TEXT" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="AddKineticLawParameter">
        <xsd:annotation>
            <xsd:documentation> Adds a new parameter to a kinetic law. If there is no kinetic law associated
            with the reaction, a kinetic law object will also be added to the reaction, before adding the
            parameter. The values of the new parameter for the different reactions should be in a tab delimited
            text file (Datafile). A mapping is then done between the datafile and the SBML model using the
            supplied mapping file. The mapping file must contain two columns, the first giving the IDs in the
            SBML model and the second giving the IDs matching the IDs of the DataFile. SBML model file,
            mapping file and data file must be given as input, as well as the ID of the parameter will be
            added. The IDs of the data file are expected to be in column 1. By default the IdColumnNumber=2,
            which means that the data in column 2 of the DataFile will be used by default values for the new
            parameter. Both the MappingFile and DataFile should contain a header. </xsd:documentation>
        </xsd:annotation>
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFiles" type="xsd:string"
                sawsdl:modelReference="http://edamontology.org/data_0950
                http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                maxOccurs="unbounded" minOccurs="1" />
                <xsd:element name="ParameterId" type="xsd:string" />
                <xsd:element name="DefaultValue" type="xsd:int" minOccurs="0" maxOccurs="1" />
                <xsd:sequence minOccurs="0" maxOccurs="1">
                    <xsd:element name="DataColumnNumber" type="xsd:int" minOccurs="0"
                    maxOccurs="1" />
                    <!-- xsd:element name="MergeMode" type="xsd:string" / -->
                    <xsd:element name="MergeMode" type="tns:MergeModeType" minOccurs="0"
                    maxOccurs="1" />
                    <xsd:element name="MappingFile" type="xsd:string" minOccurs="0" maxOccurs="1"
                    sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-
                    extension/TSV http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                    <xsd:element name="DataFile" type="xsd:string"
                    sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-
                    extension/TSV http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                </xsd:sequence>
                <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="AddKineticLawParameterResponse">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                sawsdl:modelReference="http://edamontology.org/data_0950
                http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                maxOccurs="unbounded" minOccurs="1" />
                <xsd:element name="Warnings" type="xsd:string" minOccurs="0" maxOccurs="unbounded"
                sawsdl:modelReference="http://purl.org/edam/content-type/RAW_FILE
                http://purl.org/edam/format/ANY http://purl.org/webservices/transfer/INLINE
                http://purl.org/webservices/archive-method/PLAIN_TEXT" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="AddBoundsToKineticLaw">
        <xsd:annotation>
            <xsd:documentation> Adds UPPER_BOUND and LOWER_BOUND to a kinetic law. If there is no
            kinetic law associated with the reaction, a kinetic law object will also be added to the reaction,
            before adding the bounds. DefaultUpperBound is by default set to 1000. It is also possible to use
            different upper bounds for each reaction, e.g. by using gene expression data. These upper bounds
            can be supplied in the DataFile, and the DataColumnNumber (default=2) will specifies which column
            in the data file should be used. If a data file is used, then a mapping file must also be supplied.
            The mapping file must contain two columns, the first giving the IDs in the SBML model and the
            second giving the IDs matching the data file. The IDs of the data file are expected to be in column
            1. Both the MappingFile and DataFile should contain a header. </xsd:documentation>
        </xsd:annotation>
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFiles" type="xsd:string"
```

```
                    sawsdl:modelReference="http://edamontology.org/data_0950
                    http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                    maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="DefaultValue" type="xsd:int" minOccurs="0" maxOccurs="1" />
                    <xsd:sequence minOccurs="0" maxOccurs="1">
                        <xsd:element name="DataColumnNumber" type="xsd:int" minOccurs="0"
                        maxOccurs="1" />
                        <!-- xsd:element name="MergeMode" type="xsd:string" / -->
                        <xsd:element name="MergeMode" type="tns:MergeModeType" minOccurs="0"
                        maxOccurs="1" />
                        <xsd:element name="MappingFile" type="xsd:string" minOccurs="0" maxOccurs="1"
                        sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-
                        extension/TSV http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                        <xsd:element name="DataFile" type="xsd:string"
                        sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-
                        extension/TSV http://wsio.org/transfer_011 http://wsio.org/compression_022" />
                    </xsd:sequence>
                    <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="AddBoundsToKineticLawResponse">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                    sawsdl:modelReference="http://edamontology.org/data_0950
                    http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                    maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="Warnings" type="xsd:string" minOccurs="0" maxOccurs="unbounded"
                    sawsdl:modelReference="http://purl.org/edam/content-type/RAW_FILE
                    http://purl.org/edam/format/ANY http://purl.org/webservices/transfer/INLINE
                    http://purl.org/webservices/archive-method/PLAIN_TEXT" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ReplaceInitialConcentrationsOfSpecies">
            <xsd:annotation>
                <xsd:documentation> Edits the initial concentrations of species. Input is the SBML file and a file
                containing two columns, the first giving the Species ID and the second giving the new
                concentration value. </xsd:documentation>
            </xsd:annotation>
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="xsd:string"
                    sawsdl:modelReference="http://edamontology.org/data_0950
                    http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                    maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="DataFile" type="xsd:string"
                    sawsdl:modelReference="http://edamontology.org/data_0006 http://filext.com/file-extension/TSV
                    http://wsio.org/transfer_011 http://wsio.org/compression_022" maxOccurs="1" minOccurs="1" />
                    <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ReplaceInitialConcentrationsOfSpeciesResponse">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                    sawsdl:modelReference="http://edamontology.org/data_0950
                    http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                    maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="Warnings" type="xsd:string" minOccurs="0" maxOccurs="unbounded"
                    sawsdl:modelReference="http://purl.org/edam/content-type/RAW_FILE
                    http://purl.org/edam/format/ANY http://purl.org/webservices/transfer/INLINE
                    http://purl.org/webservices/archive-method/PLAIN_TEXT" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ValidateSBMLModel">
            <xsd:annotation>
```

```
            <xsd:documentation> Validates an SBML model. </xsd:documentation>
        </xsd:annotation>
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFile" type="xsd:string"
                sawsdl:modelReference="http://edamontology.org/data_0950
                http://edamontology.org/format_2585 http://wsio.org/transfer_011 http://wsio.org/compression_022"
                />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ValidateSBMLModelResponse">
        <xsd:annotation>
            <xsd:documentation> Returns true if the SBML model is valid or returns the first error
            encountered. </xsd:documentation>
        </xsd:annotation>
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="ModelIsValid" type="xsd:boolean" />
                <xsd:element name="ErrorMessages" type="xsd:string" minOccurs="0"
                maxOccurs="unbounded" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="SBMLmodFault" type="tns:FaultType" />
    <xsd:complexType name="FaultType">
        <xsd:annotation>
            <xsd:documentation> A fault message, contains the type and free text </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element ref="tns:FaultEnum" />
            <xsd:element name="FaultMessage" type="xsd:string" />
        </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="FaultEnum" type="tns:FaultEnumType" />
    <xsd:simpleType name="FaultEnumType">
        <xsd:annotation>
            <xsd:documentation> Error types to expect from the system </xsd:documentation>
        </xsd:annotation>
        <xsd:restriction base="xsd:string">
            <xsd:enumeration value="FILE_HANDLING_ERROR" />
            <xsd:enumeration value="MISSING_ELEMENT" />
            <xsd:enumeration value="INTERNAL_ERROR" />
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="SbmlModelFilesType">
        <xsd:sequence>
            <xsd:element name="Name" type="xsd:string" />
            <xsd:element name="SbmlModelFile" type="xsd:string" />
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="ListSbmlModelFiles" />
    <xsd:element name="GetVersion">
        <xsd:annotation>
            <xsd:documentation> Returns the webservice version. </xsd:documentation>
        </xsd:annotation>
        <xsd:complexType>
            <xsd:sequence />
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="GetVersionResponse">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="Version" type="xsd:string" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
```

```
<xsd:element name="ValidateSBMLModelText">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFile" type="xsd:string"
            sawsdl:modelReference="http://edamontology.org/data_0950
            http://edamontology.org/format_2585 http://wsio.org/transfer_011" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ValidateSBMLModelTextResponse">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="ModelIsValid" type="xsd:boolean" />
            <xsd:element name="ErrorMessages" type="xsd:string" minOccurs="0"
            maxOccurs="unbounded" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ValidateSBMLModelBase64Encoded">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFile" type="xsd:string"
            sawsdl:modelReference="http://edamontology.org/data_0950
            http://edamontology.org/format_2585 http://wsio.org/transfer_011 " />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ValidateSBMLModelBase64EncodedResponse">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="ModelIsValid" type="xsd:boolean" />
            <xsd:element name="ErrorMessages" type="xsd:string" minOccurs="0"
            maxOccurs="unbounded" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ValidateSBMLModelGzippedBase64Encoded">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFile" type="xsd:string"
            sawsdl:modelReference="http://edamontology.org/data_0950
            http://edamontology.org/format_2585 http://wsio.org/transfer_011 " />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ValidateSBMLModelGzippedBase64EncodedResponse">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="ModelIsValid" type="xsd:boolean" />
            <xsd:element name="ErrorMessages" type="xsd:string" minOccurs="0"
            maxOccurs="unbounded" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ReplaceGlobalParametersText">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFiles" type="xsd:string" minOccurs="1"
            maxOccurs="unbounded" />
            <xsd:element name="DataFile" type="xsd:string" minOccurs="1" maxOccurs="1" />
            <xsd:element name="DataColumnNumber" type="xsd:int" minOccurs="0" maxOccurs="1" />
            <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
            minOccurs="0" />
            <xsd:element name="MappingFile" type="xsd:string" minOccurs="0" maxOccurs="1" />
            <xsd:element name="BatchMode" type="xsd:boolean" minOccurs="0" maxOccurs="1" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ReplaceGlobalParametersTextResponse">
```

```
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType" minOccurs="1" maxOccurs="unbounded" />
                    <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ReplaceGlobalParametersTextFault">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="ReplaceGlobalParametersTextFault" type="xsd:string" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ReplaceGlobalParametersBase64Encoded">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="1" />
                    <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ReplaceGlobalParametersBase64EncodedResponse">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType" minOccurs="1" maxOccurs="unbounded" />
                    <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ReplaceGlobalParametersBase64EncodedFault">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="ReplaceGlobalParametersBase64EncodedFault" type="xsd:string" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ReplaceGlobalParametersGzippedBase64Encoded">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="1" />
                    <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ReplaceGlobalParametersGzippedBase64EncodedResponse">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType" maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
```

```
<xsd:element name="ReplaceGlobalParametersGzippedBase64EncodedFault">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="ReplaceGlobalParametersGzippedBase64EncodedFault" type="xsd:string"
            />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ReplaceKineticLawParameterText">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded"
            minOccurs="1" />
            <xsd:element name="ParameterId" type="xsd:string" maxOccurs="1" minOccurs="1" />
            <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="1" />
            <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
            <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
            <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
            minOccurs="0" />
            <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ReplaceKineticLawParameterTextResponse">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
            maxOccurs="unbounded" minOccurs="1" />
            <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ReplaceKineticLawParameterBase64Encoded">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded"
            minOccurs="1" />
            <xsd:element name="ParameterId" type="xsd:string" maxOccurs="1" minOccurs="1" />
            <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="1" />
            <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
            <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
            <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
            minOccurs="0" />
            <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
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    </xsd:complexType>
</xsd:element>
<xsd:element name="ReplaceKineticLawParameterBase64EncodedResponse">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
            maxOccurs="unbounded" minOccurs="1" />
            <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="ReplaceKineticLawParameterGzippedBase64Encoded">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded"
            minOccurs="1" />
            <xsd:element name="ParameterId" type="xsd:string" maxOccurs="1" minOccurs="1" />
            <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="1" />
            <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
            <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
            <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
            minOccurs="0" />
            <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
```

```
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ReplaceKineticLawParameterGzippedBase64EncodedResponse">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                maxOccurs="unbounded" minOccurs="1" />
                <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ReplaceKineticLawParameterTextFault">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="ReplaceKineticLawParameterTextFault" type="xsd:string" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ReplaceKineticLawParameterBase64EncodedFault">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="ReplaceKineticLawParameterBase64EncodedFault" type="xsd:string" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ReplaceKineticLawParameterGzippedBase64EncodedFault">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="ReplaceKineticLawParameterGzippedBase64EncodedFault"
                type="xsd:string" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ReplaceGlobalParamtersBase64EncodedFault">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="ReplaceGlobalParamtersBase64EncodedFault" type="xsd:string" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ScaleKineticLawParameterText">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded"
                minOccurs="1" />
                <xsd:element name="ParameterId" type="xsd:string" maxOccurs="1" minOccurs="1" />
                <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="1" />
                <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
                <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
                <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
                minOccurs="0" />
                <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ScaleKineticLawParameterTextResponse">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                maxOccurs="unbounded" minOccurs="1" />
                <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="ScaleKineticLawParameterBase64Encoded">
        <xsd:complexType>
            <xsd:sequence>
```

```
                    <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded"
                    minOccurs="1" />
                    <xsd:element name="ParameterId" type="xsd:string" maxOccurs="1" minOccurs="1" />
                    <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="1" />
                    <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
                    minOccurs="0" />
                    <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ScaleKineticLawParameterBase64EncodedResponse">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                    maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ScaleKineticLawParameterGzippedBase64Encoded">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded"
                    minOccurs="1" />
                    <xsd:element name="ParameterId" type="xsd:string" maxOccurs="1" minOccurs="1" />
                    <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="1" />
                    <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
                    minOccurs="0" />
                    <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ScaleKineticLawParameterGzippedBase64EncodedResponse">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="tns:SbmlModelFilesType"
                    maxOccurs="unbounded" minOccurs="1" />
                    <xsd:element name="Warnings" type="xsd:string" maxOccurs="unbounded" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ScaleKineticLawParameterTextFault">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="ScaleKineticLawParameterTextFault" type="xsd:string" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ScaleKineticLawParameterBase64EncodedFault">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="ScaleKineticLawParameterBase64EncodedFault" type="xsd:string" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ScaleKineticLawParameterGzippedBase64EncodedFault">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="ScaleKineticLawParameterGzippedBase64EncodedFault" type="xsd:string"
                    />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="AddBoundsToKineticLawText">
```

```
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="SbmlModelFiles" type="xsd:string" maxOccurs="unbounded"
                    minOccurs="1" />
                    <xsd:element name="DefaultValue" type="xsd:int" maxOccurs="1" minOccurs="1" />
                    <xsd:element name="DataFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="DataColumnNumber" type="xsd:int" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
                    <xsd:element name="MergeMode" type="tns:MergeModeType" maxOccurs="1"
                    minOccurs="0" />
                    <xsd:element name="BatchMode" type="xsd:boolean" maxOccurs="1" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
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</xsd:element>
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            <xsd:element name="MappingFile" type="xsd:string" maxOccurs="1" minOccurs="0" />
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    <wsdl:part name="parameters" element="tns:ScaleGlobalParametersBase64EncodedResponse" />
</wsdl:message>
<wsdl:message name="ScaleGlobalParametersGzippedBase64EncodedRequest">
    <wsdl:part name="parameters" element="tns:ScaleGlobalParametersGzippedBase64Encoded" />
</wsdl:message>
<wsdl:message name="ScaleGlobalParametersGzippedBase64EncodedResponse">
    <wsdl:part name="parameters" element="tns:ScaleGlobalParametersGzippedBase64EncodedResponse" />
</wsdl:message>
<wsdl:message name="ScaleGlobalParametersTextFault">
    <wsdl:part name="fault" element="tns:SBMLmodFault" />
</wsdl:message>
<wsdl:message name="ScaleGlobalParametersBase64EncodedFault">
    <wsdl:part name="parameters" element="tns:ScaleGlobalParametersBase64EncodedFault" />
</wsdl:message>
<wsdl:message name="ScaleGlobalParametersGzippedBase64EncodedFault">
    <wsdl:part name="parameters" element="tns:ScaleGlobalParametersGzippedBase64EncodedFault" />
</wsdl:message>
<wsdl:portType name="SBMLmod">
    <wsdl:operation name="ReplaceGlobalParameters">
        <wsdl:input message="tns:ReplaceGlobalParametersRequest" />
        <wsdl:output message="tns:ReplaceGlobalParametersResponse" />
        <wsdl:fault name="ReplaceGlobalParametersFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ReplaceKineticLawParameter">
        <wsdl:input message="tns:ReplaceKineticLawParameterRequest" />
        <wsdl:output message="tns:ReplaceKineticLawParameterResponse" />
        <wsdl:fault name="ReplaceKineticLawParameterFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ValidateSBMLModel">
        <wsdl:input message="tns:ValidateSBMLModelRequest" />
        <wsdl:output message="tns:ValidateSBMLModelResponse" />
        <wsdl:fault name="ValidateSBMLModelFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ScaleKineticLawParameter">
        <wsdl:input message="tns:ScaleKineticLawParameterRequest" />
        <wsdl:output message="tns:ScaleKineticLawParameterResponse" />
        <wsdl:fault name="ScaleKineticLawParameterFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="AddKineticLawParameter">
        <wsdl:input message="tns:AddKineticLawParameterRequest" />
        <wsdl:output message="tns:AddKineticLawParameterResponse" />
        <wsdl:fault name="AddKineticLawParameterFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="AddBoundsToKineticLaw">
        <wsdl:input message="tns:AddBoundsToKineticLawRequest" />
        <wsdl:output message="tns:AddBoundsToKineticLawResponse" />
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        <wsdl:fault name="AddBoundsToKineticLawFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ReplaceInitialConcentrationsOfSpecies">
        <wsdl:input message="tns:ReplaceInitialConcentrationsOfSpeciesRequest" />
        <wsdl:output message="tns:ReplaceInitialConcentrationsOfSpeciesResponse" />
        <wsdl:fault name="ReplaceInitialConcentrationsOfSpeciesFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="GetVersion">
        <wsdl:input message="tns:GetVersionRequest" />
        <wsdl:output message="tns:GetVersionResponse" />
    </wsdl:operation>
    <wsdl:operation name="ValidateSBMLModelText">
        <wsdl:input message="tns:ValidateSBMLModelTextRequest" />
        <wsdl:output message="tns:ValidateSBMLModelTextResponse" />
        <wsdl:fault name="ValidateSBMLTextFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ValidateSBMLModelBase64Encoded">
        <wsdl:input message="tns:ValidateSBMLModelBase64EncodedRequest" />
        <wsdl:output message="tns:ValidateSBMLModelBase64EncodedResponse" />
        <wsdl:fault name="ValidateSBMLbase64encodedFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ValidateSBMLModelGzippedBase64Encoded">
        <wsdl:input message="tns:ValidateSBMLModelGzippedBase64EncodedRequest" />
        <wsdl:output message="tns:ValidateSBMLModelGzippedBase64EncodedResponse" />
        <wsdl:fault name="ValidateSBMLbase64encodedGzippedFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ReplaceGlobalParametersText">
        <wsdl:input message="tns:ReplaceGlobalParametersTextRequest" />
        <wsdl:output message="tns:ReplaceGlobalParametersTextResponse" />
        <wsdl:fault name="ReplaceGlobalParamtersTextFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ReplaceGlobalParametersGzippedBase64Encoded">
        <wsdl:input message="tns:ReplaceGlobalParametersGzippedBase64EncodedRequest" />
        <wsdl:output message="tns:ReplaceGlobalParametersGzippedBase64EncodedResponse" />
        <wsdl:fault name="ReplaceGlobalParametersGzippedBase64EncodedFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ReplaceKineticLawParameterText">
        <wsdl:input message="tns:ReplaceKineticLawParameterTextRequest" />
        <wsdl:output message="tns:ReplaceKineticLawParameterTextResponse" />
        <wsdl:fault name="ReplaceKineticLawParameterTextFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ReplaceKineticLawParameterBase64Encoded">
        <wsdl:input message="tns:ReplaceKineticLawParameterBase64EncodedRequest" />
        <wsdl:output message="tns:ReplaceKineticLawParameterBase64EncodedResponse" />
        <wsdl:fault name="ReplaceKineticLawParamterBase64EncodedFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ReplaceKineticLawParameterGzippedBase64Encoded">
        <wsdl:input message="tns:ReplaceKineticLawParameterGzippedBase64EncodedRequest" />
        <wsdl:output message="tns:ReplaceKineticLawParameterGzippedBase64EncodedResponse" />
        <wsdl:fault name="ReplaceKineticLawParamterGzippedBase64Encoded" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ReplaceGlobalParametersBase64Encoded">
        <wsdl:input message="tns:ReplaceGlobalParametersBase64EncodedRequest" />
        <wsdl:output message="tns:ReplaceGlobalParametersBase64EncodedResponse" />
        <wsdl:fault name="ReplaceGlobalParametersBase64EncodedFault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ScaleKineticLawParameterText">
        <wsdl:input message="tns:ScaleKineticLawParameterTextRequest" />
        <wsdl:output message="tns:ScaleKineticLawParameterTextResponse" />
        <wsdl:fault name="fault" message="tns:SBMLmodFault" />
    </wsdl:operation>
    <wsdl:operation name="ScaleKineticLawParameterBase64Encoded">
        <wsdl:input message="tns:ScaleKineticLawParameterBase64EncodedRequest" />
        <wsdl:output message="tns:ScaleKineticLawParameterBase64EncodedResponse" />
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            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="ScaleKineticLawParameterGzippedBase64Encoded">
            <wsdl:input message="tns:ScaleKineticLawParameterGzippedBase64EncodedRequest" />
            <wsdl:output message="tns:ScaleKineticLawParameterGzippedBase64EncodedResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="AddBoundsToKineticLawText">
            <wsdl:input message="tns:AddBoundsToKineticLawTextRequest" />
            <wsdl:output message="tns:AddBoundsToKineticLawTextResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="AddBoundsToKineticLawBase64Encoded">
            <wsdl:input message="tns:AddBoundsToKineticLawBase64EncodedRequest" />
            <wsdl:output message="tns:AddBoundsToKineticLawBase64EncodedResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="AddBoundsToKineticLawGzippedBase64Encoded">
            <wsdl:input message="tns:AddBoundsToKineticLawGzippedBase64EncodedRequest" />
            <wsdl:output message="tns:AddBoundsToKineticLawGzippedBase64EncodedResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="ReplaceInitialConcentrationsOfSpeciesText">
            <wsdl:input message="tns:ReplaceInitialConcentrationsOfSpeciesTextRequest" />
            <wsdl:output message="tns:ReplaceInitialConcentrationsOfSpeciesTextResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="ReplaceInitialConcentrationsOfSpeciesBase64Encoded">
            <wsdl:input message="tns:ReplaceInitialConcentrationsOfSpeciesBase64EncodedRequest" />
            <wsdl:output message="tns:ReplaceInitialConcentrationsOfSpeciesBase64EncodedResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="ReplaceInitialConcentrationsOfSpeciesGzippedBase64Encoded">
            <wsdl:input message="tns:ReplaceInitialConcentrationsOfSpeciesGzippedBase64EncodedRequest" />
            <wsdl:output message="tns:ReplaceInitialConcentrationsOfSpeciesGzippedBase64EncodedResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="ScaleGlobalParametersText">
            <wsdl:input message="tns:ScaleGlobalParametersTextRequest" />
            <wsdl:output message="tns:ScaleGlobalParametersTextResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="ScaleGlobalParametersBase64Encoded">
            <wsdl:input message="tns:ScaleGlobalParametersBase64EncodedRequest" />
            <wsdl:output message="tns:ScaleGlobalParametersBase64EncodedResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
        <wsdl:operation name="ScaleGlobalParametersGzippedBase64Encoded">
            <wsdl:input message="tns:ScaleGlobalParametersGzippedBase64EncodedRequest" />
            <wsdl:output message="tns:ScaleGlobalParametersGzippedBase64EncodedResponse" />
            <wsdl:fault name="fault" message="tns:SBMLmodFault" />
        </wsdl:operation>
    </wsdl:portType>
    <wsdl:binding name="SBMLmodSOAP" type="tns:SBMLmod">
        <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http" />
        <wsdl:operation name="ReplaceGlobalParameters">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ReplaceGlobalParameters" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ReplaceGlobalParametersFault">
                <soap:fault use="literal" name="ReplaceGlobalParametersFault" />
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            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="ReplaceKineticLawParameter">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ReplaceKineticLawParameter" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ReplaceKineticLawParameterFault">
                <soap:fault use="literal" name="ReplaceKineticLawParameterFault" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="ValidateSBMLModel">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ValidateSBMLModel" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ValidateSBMLModelFault">
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            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="ScaleKineticLawParameter">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ScaleKineticLawParameter" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ScaleKineticLawParameterFault">
                <soap:fault use="literal" name="ScaleKineticLawParameterFault" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="AddKineticLawParameter">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/AddKineticLawParameter" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="AddKineticLawParameterFault">
                <soap:fault use="literal" name="AddKineticLawParameterFault" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="AddBoundsToKineticLaw">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/AddBoundsToKineticLaw" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="AddBoundsToKineticLawFault">
                <soap:fault use="literal" name="AddBoundsToKineticLawFault" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="ReplaceInitialConcentrationsOfSpecies">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ReplaceInitialConcentrationsOfSpecies" />
            <wsdl:input>
                <soap:body use="literal" />
```

```
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ReplaceInitialConcentrationsOfSpeciesFault">
                <soap:fault use="literal" name="ReplaceInitialConcentrationsOfSpeciesFault" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="GetVersion">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/GetVersion" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="ValidateSBMLModelText">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ValidateSBMLModelText" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ValidateSBMLTextFault">
                <soap:fault use="literal" name="ValidateSBMLTextFault" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="ValidateSBMLModelBase64Encoded">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ValidateSBMLModelBase64Encoded" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ValidateSBMLbase64encodedFault">
                <soap:fault use="literal" name="ValidateSBMLbase64encodedFault" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="ValidateSBMLModelGzippedBase64Encoded">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ValidateSBMLModelGzippedBase64Encoded"
            />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ValidateSBMLbase64encodedGzippedFault">
                <soap:fault use="literal" name="ValidateSBMLbase64encodedGzippedFault" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="ReplaceGlobalParametersText">
            <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ReplaceGlobalParametersText" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ReplaceGlobalParamtersTextFault">
                <soap:fault use="literal" name="ReplaceGlobalParamtersTextFault" />
            </wsdl:fault>
        </wsdl:operation>
```

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<wsdl:operation name="ReplaceGlobalParametersBase64Encoded">
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    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ReplaceGlobalParametersBase64EncodedFault">
        <soap:fault use="literal" name="ReplaceGlobalParametersBase64EncodedFault" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ReplaceGlobalParametersGzippedBase64Encoded">
    <soap:operation
    soapAction="http://esysbio.org/service/bio/SBMLmod/ReplaceGlobalParametersGzippedBase64Encoded" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ReplaceGlobalParametersGzippedBase64EncodedFault">
        <soap:fault use="literal" name="ReplaceGlobalParametersGzippedBase64EncodedFault" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ReplaceKineticLawParameterText">
    <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ReplaceKineticLawParameterText" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ReplaceKineticLawParameterTextFault">
        <soap:fault use="literal" name="ReplaceKineticLawParameterTextFault" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ReplaceKineticLawParameterBase64Encoded">
    <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ReplaceKineticLawParameterBase64Encoded"
    />
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    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
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        <soap:fault use="literal" name="ReplaceKineticLawParamterBase64EncodedFault" />
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    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ReplaceKineticLawParamterGzippedBase64Encoded">
        <soap:fault use="literal" name="ReplaceKineticLawParamterGzippedBase64Encoded" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ScaleKineticLawParameterText">
    <soap:operation soapAction="http://esysbio.org/service/bio/SBMLmod/ScaleKineticLawParameterText" />
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        <soap:body use="literal" />
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            </wsdl:input>
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            </wsdl:fault>
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        <wsdl:operation name="AddBoundsToKineticLawText">
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            </wsdl:input>
            <wsdl:output>
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            </wsdl:output>
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        </wsdl:operation>
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                <soap:body use="literal" />
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            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
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        </wsdl:operation>
        <wsdl:operation name="ReplaceInitialConcentrationsOfSpeciesText">
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            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="fault">
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        </wsdl:operation>
        <wsdl:operation name="ReplaceInitialConcentrationsOfSpeciesBase64Encoded">
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            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
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                <soap:fault use="literal" name="fault" />
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            />
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            </wsdl:input>
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                <soap:body use="literal" />
            </wsdl:output>
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                <soap:fault use="literal" name="fault" />
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        </wsdl:operation>
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            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="ScaleGlobalParametersBase64Encoded">
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            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="fault">
                <soap:fault use="literal" name="fault" />
            </wsdl:fault>
        </wsdl:operation>
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```
            <wsdl:operation name="ScaleGlobalParametersGzippedBase64Encoded">
                <soap:operation
                soapAction="http://esysbio.org/service/bio/SBMLmod/ScaleGlobalParametersGzippedBase64Encoded" />
                <wsdl:input>
                    <soap:body use="literal" />
                </wsdl:input>
                <wsdl:output>
                    <soap:body use="literal" />
                </wsdl:output>
                <wsdl:fault name="fault">
                    <soap:fault use="literal" name="fault" />
                </wsdl:fault>
            </wsdl:operation>
        </wsdl:binding>
        <wsdl:service name="SBMLmod">
            <wsdl:port binding="tns:SBMLmodSOAP" name="SBMLmodSOAP">
                <soap:address location="http://sbmlmod.uit.no:8080/sbmlmod" />
            </wsdl:port>
        </wsdl:service>
</wsdl:definitions>
```

About *wsdl-viewer.xsl*

This page has been generated by wsdl-viewer.xsl, version 3.1.01
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Download at http://tomi.vanek.sk/xml/wsdl-viewer.xsl.

The transformation was inspired by the article
Uche Ogbuji: WSDL processing with XSLT

This document was generated by libxslt XSLT engine. The engine processed the WSDL in XSLT 1.0 compliant mode.