

Schema documentation for MIF300.xsd

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Namespace: "http://psi.hupo.org/mi/mif300"

Schema(s)

Main schema MIF300.xsd

Namespace	http://psi.hupo.org/mi/mif300
Properties	attribute form default: unqualified element form default: qualified

Element(s)

Element mif:entrySet

Namespace	http://psi.hupo.org/mi/mif300																														
Annotations	Root element of the Molecular Interaction Format																														
Diagram	<p>The diagram illustrates the structure of the <code>mif:entrySet</code> element. It is a root element with three attributes: <code>@level</code> (type <code>xs:int</code>, fixed value 3), <code>@version</code> (type <code>xs:int</code>, fixed value 0), and <code>@minorVersion</code> (type <code>xs:int</code>, fixed value 0). It has a multiplicity <code>1..∞</code> association named <code>entry</code> with type <code>mif:entry</code>. A note states: "Root element of the Molecular Interaction Format".</p>																														
Type	<code>mif:entrySet</code>																														
Properties	content: complex																														
Model	<code>mif:entry+</code>																														
Children	<code>mif:entry</code>																														
Instance	<pre><mif:entrySet level="3" minorVersion="0" version="0" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:entry>{1,unbounded}</mif:entry> </mif:entrySet></pre>																														
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td><code>level</code></td> <td><code>xs:int</code></td> <td>3</td> <td></td> <td>required</td> </tr> <tr> <td></td> <td></td> <td>PSI MI level</td> <td></td> <td></td> </tr> <tr> <td><code>minorVersion</code></td> <td><code>xs:int</code></td> <td>0</td> <td></td> <td>optional</td> </tr> <tr> <td><code>version</code></td> <td><code>xs:int</code></td> <td>0</td> <td></td> <td>required</td> </tr> <tr> <td></td> <td></td> <td>PSI MI version within given level</td> <td></td> <td></td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>level</code>	<code>xs:int</code>	3		required			PSI MI level			<code>minorVersion</code>	<code>xs:int</code>	0		optional	<code>version</code>	<code>xs:int</code>	0		required			PSI MI version within given level		
QName	Type	Fixed	Default	Use																											
<code>level</code>	<code>xs:int</code>	3		required																											
		PSI MI level																													
<code>minorVersion</code>	<code>xs:int</code>	0		optional																											
<code>version</code>	<code>xs:int</code>	0		required																											
		PSI MI version within given level																													
Source	<pre><xss:element name="entrySet" type="mif:entrySet"> <xss:annotation> <xss:documentation>Root element of the Molecular Interaction Format</xss:documentation> </xss:annotation> </xss:element></pre>																														

Element mif:entrySet / mif:entry

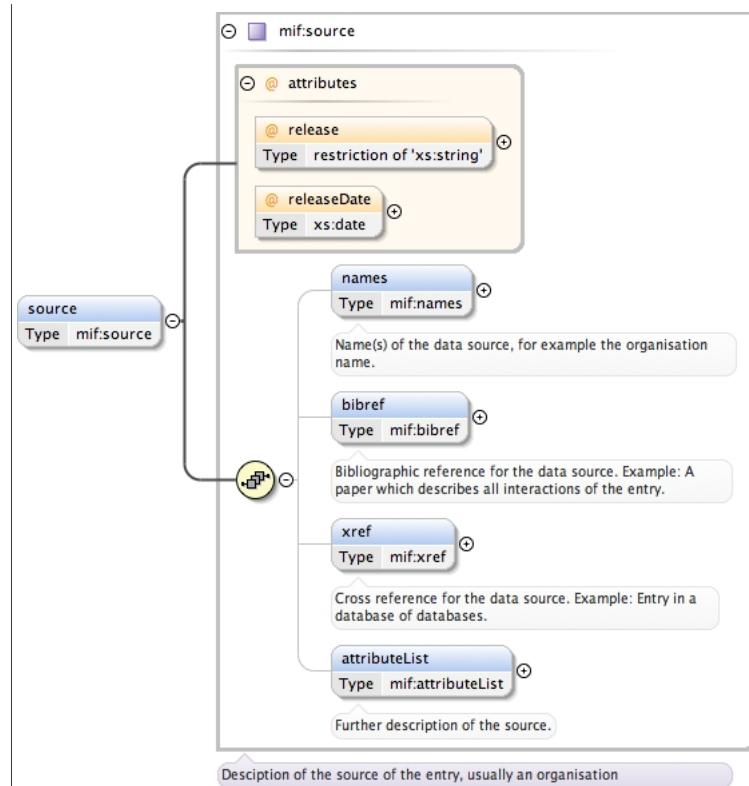
Namespace	http://psi.hupo.org/mi/mif300

Annotations	Describes one or more interactions as a self-contained unit. Multiple entries from different files can be concatenated into a single entrySet.
Diagram	<pre> classDiagram class mif.entry { <<Describes one or more interactions as a self-contained unit. Multiple entries from different files can be concatenated...>> entry --> entry entry "1..1" --> source entry "1..1" --> availabilityList entry "1..1" --> experimentList entry "1..1" --> interactorList entry "1..1" --> interactionList entry "1..1" --> attributeList } </pre>
Type	mif:entry
Properties	<p>content: complex</p> <p>maxOccurs: unbounded</p>
Model	mif:source{0,1} , mif:availabilityList{0,1} , mif:experimentList{0,1} , mif:interactorList{0,1} , mif:interactionList , mif:attributeList{0,1}
Children	mif:attributeList, mif:availabilityList, mif:experimentList, mif:interactionList, mif:interactorList, mif:source
Instance	<pre> <mif:entry xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:source release="" releaseDates="">{0,1}</mif:source> <mif:availabilityList>{0,1}</mif:availabilityList> <mif:experimentList>{0,1}</mif:experimentList> <mif:interactorList>{0,1}</mif:interactorList> <mif:interactionList>{1,1}</mif:interactionList> <mif:attributeList>{0,1}</mif:attributeList> </mif:entry> </pre>
Source	<pre> <xs:element name="entry" maxOccurs="unbounded" type="mif:entry"> <xs:annotation> <xs:documentation>Describes one or more interactions as a self-contained unit. Multiple entries from different files can be concatenated into a single entrySet.</xs:documentation> </xs:annotation> </xs:element> </pre>

Element mif:entry / mif:source

Namespace <http://psi.hupo.org/mi/mif300>

Diagram



Type	mif:source															
Properties	content: complex minOccurs: 0															
Model	mif:names{0,1} , mif:bibref{0,1} , mif:xref{0,1} , mif:attributeList{0,1}															
Children	mif:attributeList, mif:bibref, mif:names, mif:xref															
Instance	<pre><mif:source release="" releaseDate="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:bibref>{0,1}</mif:bibref> <mif:xref>{0,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> </mif:source></pre>															
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>release</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>optional</td> </tr> <tr> <td>releaseDate</td> <td>xs:date</td> <td></td> <td></td> <td>optional</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	release	restriction of xs:string			optional	releaseDate	xs:date			optional
QName	Type	Fixed	Default	Use												
release	restriction of xs:string			optional												
releaseDate	xs:date			optional												
Source	<pre><xss:element name="source" type="mif:source" minOccurs="0" /></pre>															

Element mif:source / mif:names

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Name(s) of the data source, for example the organisation name.

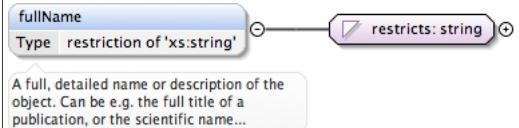
Diagram	<p>mif:names</p> <ul style="list-style-type: none"> shortLabel Type restriction of 'xs:string' A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc. fullName Type restriction of 'xs:string' A full, detailed name or description of the object. Can be e.g. the full title of a publication, or the scientific name... alias Type mif:alias <p>Names for an object.</p>				
Type	mif:names				
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td><td style="padding: 2px;">complex</td></tr> <tr> <td style="padding: 2px;">minOccurs:</td><td style="padding: 2px;">0</td></tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*				
Children	mif:alias, mif:fullName, mif:shortLabel				
Instance	<pre><mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names></pre>				
Source	<pre><xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>Name(s) of the data source, for example the organisation name.</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:names / mif:shortLabel

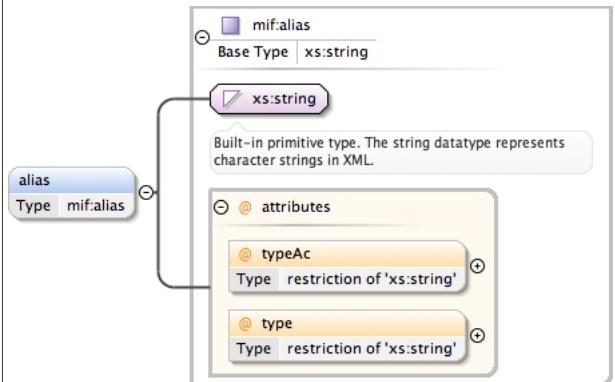
Namespace	http://psi.hupo.org/mi/mif300				
Annotations	A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc.				
Diagram	<p>shortLabel Type restriction of 'xs:string'</p> <p>A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc.</p>				
Type	restriction of xs:string				
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td><td style="padding: 2px;">simple</td></tr> <tr> <td style="padding: 2px;">minOccurs:</td><td style="padding: 2px;">0</td></tr> </table>	content:	simple	minOccurs:	0
content:	simple				
minOccurs:	0				
Facets	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">minLength</td><td style="padding: 2px;">1</td></tr> </table>	minLength	1		
minLength	1				
Source	<pre><xs:element name="shortLabel" minOccurs="0"> <xs:annotation> <xs:documentation>A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:element></pre>				

Element mif:names / mif:fullName

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A full, detailed name or description of the object. Can be e.g. the full title of a publication, or the scientific name of a species.

Diagram	
Type	restriction of xs:string
Properties	content: simple minOccurs: 0
Facets	minLength 1
Source	<pre><xs:element name="fullName" minOccurs="0"> <xs:annotation> <xs:documentation>A full, detailed name or description of the object. Can be e.g. the full title of a publication, or the scientific name of a species.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

Element mif:names / mif:alias

Namespace	http://psi.hupo.org/mi/mif300															
Diagram																
Type	mif:alias															
Properties	content: complex minOccurs: 0 maxOccurs: unbounded															
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>type</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>optional</td> </tr> <tr> <td>typeAc</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>optional</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	type	restriction of xs:string			optional	typeAc	restriction of xs:string			optional
QName	Type	Fixed	Default	Use												
type	restriction of xs:string			optional												
typeAc	restriction of xs:string			optional												
Source	<pre><xs:element name="alias" type="mif:alias" minOccurs="0" maxOccurs="unbounded" /></pre>															

Element mif:source / mif:bibref

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Bibliographic reference for the data source. Example: A paper which describes all interactions of the entry.

Diagram					
Type	mif:bibref				
Properties	<table border="1"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	(mif:xref , mif:attributeList{0,1} (mif:attributeList)				
Children	mif:attributeList, mif:xref				
Instance	<pre><mif:bibref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:xref>{1,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> <mif:attributeList>{1,1}</mif:attributeList> </mif:bibref></pre>				
Source	<pre><xss:element name="bibref" type="mif:bibref" minOccurs="0"> <xss:annotation> <xss:documentation>Bibliographic reference for the data source. Example: A paper which describes all interactions of the entry.</xss:documentation> </xss:annotation> </xss:element></pre>				

Element mif:bibref / mif:xref

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Bibliographic reference in external database, usually PubMed.						
Diagram							
Type	mif:xref						
Properties	<table border="1"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>minOccurs:</td><td>1</td></tr> <tr> <td>maxOccurs:</td><td>1</td></tr> </table>	content:	complex	minOccurs:	1	maxOccurs:	1
content:	complex						
minOccurs:	1						
maxOccurs:	1						
Model	mif:primaryRef , mif:secondaryRef*						
Children	mif:primaryRef, mif:secondaryRef						
Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref></pre>						

Source	<pre><xss:element name="xref" type="mif:xref" minOccurs="1" maxOccurs="1"> <xss:annotation> <xss:documentation>Bibliographic reference in external database, usually PubMed.</xss:documentation> </xss:annotation> </xss:element></pre>
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Element mif:xref / mif:primaryRef

Namespace	http://psi.hupo.org/mi/mif300																				
Annotations	Primary reference to an external database.																				
Diagram	<pre> classDiagram class mif:dbReference { @ db : restriction of xs:string @ dbAc : restriction of xs:string @ id : restriction of xs:string @ secondary : restriction of xs:string @ version : restriction of xs:string @ refType : restriction of xs:string @ refTypeAc : restriction of xs:string } class primaryRef { @ Type: mif:dbReference } primaryRef --> mif:dbReference </pre> <p>The diagram illustrates the structure of the <code>mif:dbReference</code> element. It contains the following attributes:</p> <ul style="list-style-type: none"> <code>@ db</code>: Type <code>restriction of xs:string</code>. Description: Name of the external database. Taken from the controlled vocabulary of databases. <code>@ dbAc</code>: Type <code>restriction of xs:string</code>. Description: Accession number of the database in the database CV. This element is controlled by the PSI-MI controlled vocabulary... <code>@ id</code>: Type <code>restriction of xs:string</code>. Description: Primary identifier of the object in the external database, e.g. UniProt accession number. <code>@ secondary</code>: Type <code>restriction of xs:string</code>. Description: Secondary identifier of the object in the external database, e.g. UniProt ID. <code>@ version</code>: Type <code>restriction of xs:string</code>. Description: The version number of the object in the external database. <code>@ refType</code>: Type <code>restriction of xs:string</code>. Description: Reference type, e.g. "identity" if this reference refers to an identical object in the external database, or... <code>@ refTypeAc</code>: Type <code>restriction of xs:string</code>. Description: Reference type accession number from the CV of reference types. This element is controlled by the PSI-MI controlled... <p>A <code>primaryRef</code> element (Type: <code>mif:dbReference</code>) is shown pointing to the <code>mif:dbReference</code> class. A note below states: "Refers to a unique object in an external database."</p>																				
Type	<code>mif:dbReference</code>																				
Properties	content: complex																				
Model	<code>mif:attributeList</code>																				
Children	<code>mif:attributeList</code>																				
Instance	<pre><mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attributeList>{1,1}</mif:attributeList> </mif:primaryRef></pre>																				
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td><code>db</code></td> <td><code>restriction of xs:string</code></td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td>Name of the external database. Taken from the controlled vocabulary of databases.</td> <td></td> <td></td> <td></td> </tr> <tr> <td><code>dbAc</code></td> <td><code>restriction of xs:string</code></td> <td></td> <td></td> <td>optional</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>db</code>	<code>restriction of xs:string</code>			required		Name of the external database. Taken from the controlled vocabulary of databases.				<code>dbAc</code>	<code>restriction of xs:string</code>			optional
QName	Type	Fixed	Default	Use																	
<code>db</code>	<code>restriction of xs:string</code>			required																	
	Name of the external database. Taken from the controlled vocabulary of databases.																				
<code>dbAc</code>	<code>restriction of xs:string</code>			optional																	

QName	Type	Fixed	Default	Use
	Accession number of the database in the database CV. This element is controlled by the PSI-MI controlled vocabulary "database citation", root term id MI:0444.			
id	restriction of xs:string			required
	Primary identifier of the object in the external database, e.g. UniProt accession number.			
refType	restriction of xs:string			optional
	Reference type, e.g. "identity" if this reference refers to an identical object in the external database, or "see-also" for additional information. Controlled by CV.			
refTypeAc	restriction of xs:string			optional
	Reference type accession number from the CV of reference types. This element is controlled by the PSI-MI controlled vocabulary "xref type", root term id MI:0353.			
secondary	restriction of xs:string			optional
	Secondary identifier of the object in the external database, e.g. UniProt ID.			
version	restriction of xs:string			optional
	The version number of the object in the external database.			
Source	<pre><xs:element name="primaryRef" type="mif:dbReference"> <xs:annotation> <xs:documentation>Primary reference to an external database.</xs:documentation> </xs:annotation> </xs:element></pre>			

Element **mif:dbReference / mif:attributeList**

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> classDiagram class attributeList { Type mif:attributeList } class attribute { Type mif:attribute } attributeList "1..∞" o-- attribute attributeList "1..∞" o--> attribute note over attributeList: A list of additional attributes. Open tag-value list to allow the inclusion of additional data. </pre>
Type	mif:attributeList
Properties	content: complex
Model	mif:attribute+
Children	mif:attribute
Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList></pre>
Source	<pre><xs:element name="attributeList" type="mif:attributeList" /></pre>

Element **mif:attributeList / mif:attribute**

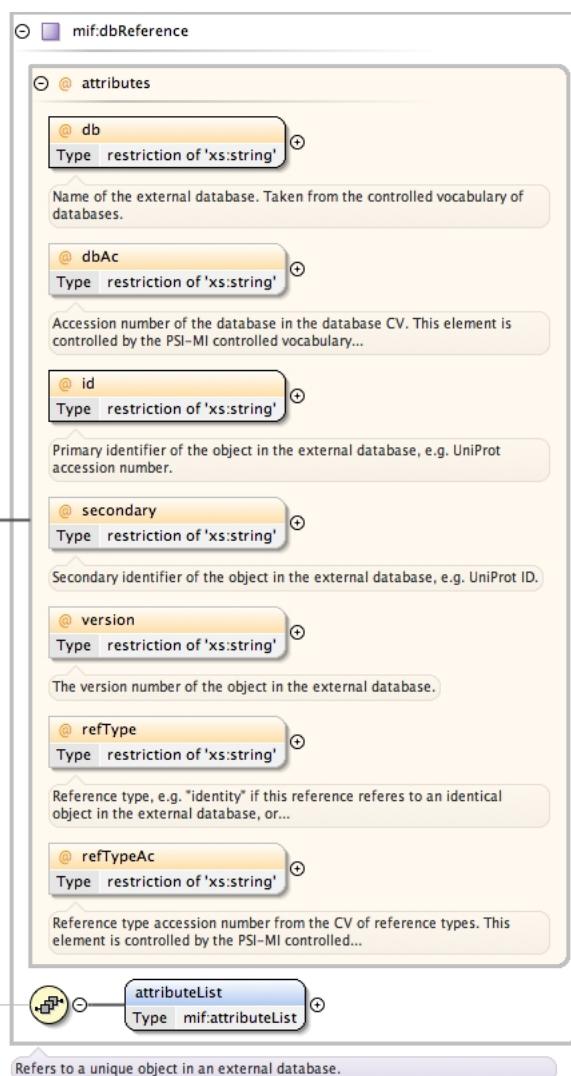
Namespace	http://psi.hupo.org/mi/mif300
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Diagram	<pre> classDiagram mif.attribute < -- xs.string xs.string { <<Built-in primitive type. The string datatype represents character strings in XML.>> @name : restriction of xs:string @nameAc : restriction of xs:string } </pre>																									
Type	mif:attribute																									
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td><td style="padding: 2px;">complex</td></tr> <tr> <td style="padding: 2px;">maxOccurs:</td><td style="padding: 2px;">unbounded</td></tr> </table>	content:	complex	maxOccurs:	unbounded																					
content:	complex																									
maxOccurs:	unbounded																									
Attributes	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">QName</th><th style="text-align: left; padding: 2px;">Type</th><th style="text-align: left; padding: 2px;">Fixed</th><th style="text-align: left; padding: 2px;">Default</th><th style="text-align: left; padding: 2px;">Use</th></tr> </thead> <tbody> <tr> <td style="padding: 2px;">name</td><td style="padding: 2px;">restriction of xs:string</td><td style="padding: 2px;"></td><td style="padding: 2px;"></td><td style="padding: 2px;">required</td></tr> <tr> <td style="padding: 2px;"></td><td style="padding: 2px;">The name of the attribute.</td><td style="padding: 2px;"></td><td style="padding: 2px;"></td><td style="padding: 2px;"></td></tr> <tr> <td style="padding: 2px;">nameAc</td><td style="padding: 2px;">restriction of xs:string</td><td style="padding: 2px;"></td><td style="padding: 2px;"></td><td style="padding: 2px;">optional</td></tr> <tr> <td style="padding: 2px;"></td><td style="padding: 2px;">Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.</td><td style="padding: 2px;"></td><td style="padding: 2px;"></td><td style="padding: 2px;"></td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	name	restriction of xs:string			required		The name of the attribute.				nameAc	restriction of xs:string			optional		Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.			
QName	Type	Fixed	Default	Use																						
name	restriction of xs:string			required																						
	The name of the attribute.																									
nameAc	restriction of xs:string			optional																						
	Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.																									
Source	<code><xs:element name="attribute" type="mif:attribute" maxOccurs="unbounded"/></code>																									

Element **mif:xref / mif:secondaryRef**

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Further external objects describing the object.

Diagram



Type	<code>mif:dbReference</code>				
Properties	<p>content: complex</p> <p>minOccurs: 0</p> <p>maxOccurs: unbounded</p>				
Model	<code>mif:attributeList</code>				
Children	<code>mif:attributeList</code>				
Instance	<pre><mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attributeList>{1,1}</mif:attributeList> </mif:secondaryRef></pre>				
Attributes	QName	Type	Fixed	Default	Use
	db	restriction of xs:string			required
		Name of the external database. Taken from the controlled vocabulary of databases.			
	dbAc	restriction of xs:string			optional
		Accession number of the database in the database CV. This element is controlled by the PSI-MI controlled vocabulary "database citation", root term id MI:0444.			
	id	restriction of xs:string			required
		Primary identifier of the object in the external database, e.g. UniProt accession number.			
	refType	restriction of xs:string			optional

QName	Type	Fixed	Default	Use
Reference type, e.g. "identity" if this reference refers to an identical object in the external database, or "see-also" for additional information. Controlled by CV.				
refTypeAc	restriction of xs:string			optional
Reference type accession number from the CV of reference types. This element is controlled by the PSI-MI controlled vocabulary "xref type", root term id MI:0353.				
secondary	restriction of xs:string			optional
Secondary identifier of the object in the external database, e.g. UniProt ID.				
version	restriction of xs:string			optional
The version number of the object in the external database.				
Source	<pre><xs:element name="secondaryRef" type="mif:dbReference" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Further external objects describing the object.</xs:documentation> </xs:annotation> </xs:element></pre>			

Element mif:bibref / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Additional description of bibliographic reference such as publication title, authors, journal, publication date...						
Diagram	<pre> classDiagram class attributeList { Type mif:attributeList } class attribute { Type mif:attribute } attributeList "1..>" -- "0..1" attribute </pre> <p>Additional description of bibliographic reference such as publication title, authors, journal, publication date...</p> <p>A list of additional attributes. Open tag-value list to allow the inclusion of additional data.</p>						
Type	mif:attributeList						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	1
content:	complex						
minOccurs:	0						
maxOccurs:	1						
Model	mif:attribute+						
Children	mif:attribute						
Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList></pre>						
Source	<pre><xs:element name="attributeList" type="mif:attributeList" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Additional description of bibliographic reference such as publication title, authors, journal, publication date...</xs:documentation> </xs:annotation> </xs:element></pre>						

Element mif:source / mif:xref

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Cross reference for the data source. Example: Entry in a database of databases.

Diagram	<p>mif:xref</p> <p>xref Type mif:xref</p> <p>Cross reference for the data source. Example: Entry in a database of databases.</p> <p>primaryRef Type mif:dbReference</p> <p>Primary reference to an external database.</p> <p>secondaryRef Type mif:dbReference</p> <p>Further external objects describing the object.</p> <p>Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into...</p>				
Type	mif:xref				
Properties	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">content:</td> <td style="width: 90%;">complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:primaryRef , mif:secondaryRef*				
Children	mif:primaryRef, mif:secondaryRef				
Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref></pre>				
Source	<pre><x:element name="xref" type="mif:xref" minOccurs="0"> <x:annotation> <x:documentation>Cross reference for the data source. Example: Entry in a database of databases.</x:documentation> </x:annotation> </x:element></pre>				

Element mif:source / mif:attributeList

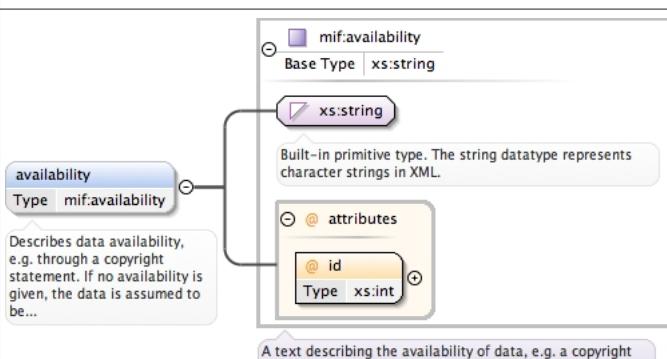
Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Further description of the source.				
Diagram	<p>mif:attributeList</p> <p>attributeList Type mif:attributeList</p> <p>Further description of the source.</p> <p>attribute Type mif:attribute</p> <p>A list of additional attributes. Open tag-value list to allow the inclusion of additional data.</p>				
Type	mif:attributeList				
Properties	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">content:</td> <td style="width: 90%;">complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				
Children	mif:attribute				
Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList></pre>				
Source	<pre><x:element name="attributeList" type="mif:attributeList" minOccurs="0"> <x:annotation> <x:documentation>Further description of the source.</x:documentation> </x:annotation> </x:element></pre>				

Element mif:entry / mif:availabilityList

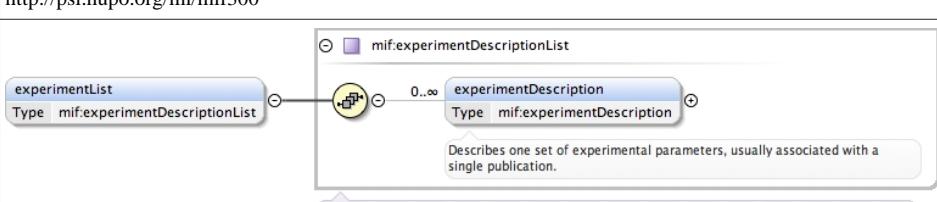
Namespace	http://psi.hupo.org/mi/mif300
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Diagram	 <p>The diagram illustrates the relationship between the <code>mif:availabilityList</code> element and the <code>mif:availability</code> element. The <code>mif:availabilityList</code> element is shown as a container with a multiplicity of <code>0..*</code>. It has a note below it stating: "Data availability statements, for example copyrights". The <code>mif:availability</code> element is shown as a child of <code>mif:availabilityList</code>.</p>
Type	<code>mif:availabilityList</code>
Properties	content: complex minOccurs: 0
Model	<code>mif:availability*</code>
Children	<code>mif:availability</code>
Instance	<pre><mif:availabilityList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:availability id="">{0,unbounded}</mif:availability> </mif:availabilityList></pre>
Source	<code><xss:element name="availabilityList" type="mif:availabilityList" minOccurs="0"/></code>

Element `mif:availabilityList / mif:availability`

Namespace	http://psi.hupo.org/mi/mif300										
Annotations	Describes data availability, e.g. through a copyright statement. If no availability is given, the data is assumed to be freely available.										
Diagram	 <p>The diagram shows the <code>mif:availability</code> element as a primitive type <code>xs:string</code>. It has a note: "Built-in primitive type. The string datatype represents character strings in XML.". Below it, there is a note: "A text describing the availability of data, e.g. a copyright statement.". The <code>xs:string</code> type is associated with attributes <code>@id</code> (type <code>xs:int</code>) and <code>@attributes</code>.</p>										
Type	<code>mif:availability</code>										
Properties	content: complex minOccurs: 0 maxOccurs: unbounded										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td><code>id</code></td> <td><code>xs:int</code></td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>id</code>	<code>xs:int</code>			required
QName	Type	Fixed	Default	Use							
<code>id</code>	<code>xs:int</code>			required							
Source	<pre><xss:element name="availability" type="mif:availability" minOccurs="0" maxOccurs="unbounded"> <xss:annotation> <xss:documentation>Describes data availability, e.g. through a copyright statement. If no availability is given, the data is assumed to be freely available.</xss:documentation> </xss:annotation> </xss:element></pre>										

Element `mif:entry / mif:experimentList`

Namespace	http://psi.hupo.org/mi/mif300
Diagram	 <p>The diagram illustrates the relationship between the <code>mif:experimentList</code> element and the <code>mif:experimentDescription</code> element. The <code>mif:experimentList</code> element is shown as a container with a multiplicity of <code>0..*</code>. It has a note below it stating: "All experiments in which the interactions of this entry have been determined". The <code>mif:experimentDescription</code> element is shown as a child of <code>mif:experimentList</code>.</p>
Type	<code>mif:experimentDescriptionList</code>

Properties	content: complex minOccurs: 0
Model	mif:experimentDescription*
Children	mif:experimentDescription
Instance	<mif:experimentList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentDescription id="">{0,unbounded}</mif:experimentDescription> </mif:experimentList>
Source	<x:element name="experimentList" type="mif:experimentDescriptionList" minOccurs="0"/>

Element mif:experimentDescriptionList / mif:experimentDescription

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Describes one set of experimental parameters, usually associated with a single publication.
Diagram	<p>The diagram illustrates the structure of the <code>mif:experimentDescription</code> element. It is a complex type with the following attributes:</p> <ul style="list-style-type: none"> <code>@ id</code>: Type <code>xs:int</code>. Description: All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated.... <code>names</code>: Type <code>mif:names</code>. <code>bibref</code>: Type <code>mif:bibref</code>. Description: Publication describing the experiment. <code>xref</code>: Type <code>mif:xref</code>. Description: Refers to external database description of the experiment. <code>hostOrganismList</code>: Type <code>mif:hostOrganismList</code>. <code>interactionDetectionMethod</code>: Type <code>mif:cvType</code>. Description: Experimental method to determine the interaction. This element is controlled by the PSI-MI controlled vocabulary... <code>participantIdentificationMethod</code>: Type <code>mif:cvType</code>. Description: Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI... <code>featureDetectionMethod</code>: Type <code>mif:cvType</code>. Description: Experimental method to determine the features of interactors. If this element is filled it is assumed to apply to all... <code>confidenceList</code>: Type <code>mif:confidenceList</code>. Description: Confidence in this experiment. Usually a statistical measure. <code>variableParameterList</code>: Type <code>mif:variableParameterList</code>. Description: A list of variable parameters used in this experiment - eg - variable concentration of a specific drug. <code>attributeList</code>: Type <code>mif:attributeList</code>. Description: Semi-structured additional description of the experiment. <p>The <code>mif:experimentDescription</code> element itself is described as: Describes one set of experimental parameters, usually associated with a single publication.</p>
Type	<code>mif:experimentDescription</code>
Properties	content: complex

	minOccurs:	0																		
	maxOccurs:	unbounded																		
Model	mif:names{0,1} , mif:bibref , mif:xref{0,1} , mif:hostOrganismList{0,1} , mif:interactionDetectionMethod , mif:participantIdentificationMethod{0,1} , mif:featureDetectionMethod{0,1} , mif:confidenceList{0,1} , mif:variableParameterList{0,1} , mif:attributeList{0,1}																			
Children	mif:attributeList, mif:bibref, mif:confidenceList, mif:featureDetectionMethod, mif:hostOrganismList, mif:interactionDetectionMethod, mif:names, mif:participantIdentificationMethod, mif:variableParameterList, mif:xref																			
Instance	<pre><mif:experimentDescription id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:bibref>{1,1}</mif:bibref> <mif:xref>{0,1}</mif:xref> <mif:hostOrganismList>{0,1}</mif:hostOrganismList> <mif:interactionDetectionMethod>{1,1}</mif:interactionDetectionMethod> <mif:participantIdentificationMethod>{0,1}</mif:participantIdentificationMethod> <mif:featureDetectionMethod>{0,1}</mif:featureDetectionMethod> <mif:confidenceList>{0,1}</mif:confidenceList> <mif:variableParameterList>{0,1}</mif:variableParameterList> <mif:attributeList>{0,1}</mif:attributeList> </mif:experimentDescription></pre>																			
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td>All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required		All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.							
QName	Type	Fixed	Default	Use																
id	xs:int			required																
	All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.																			
Source	<pre><xss:element name="experimentDescription" type="mif:experimentDescription" minOccurs="0" maxOccurs="unbounded"> <xss:annotation> <xss:documentation>Describes one set of experimental parameters, usually associated with a single publication.</xss:documentation> </xss:annotation> </xss:element></pre>																			

Element mif:experimentDescription / mif:names

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<pre> classDiagram class names { shortLabel : restriction of xs:string fullName : restriction of xs:string alias : mif:alias } note over names: Names for an object. </pre>				
Type	mif:names				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*				
Children	mif:alias, mif:fullName, mif:shortLabel				
Instance	<pre><mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names></pre>				
Source	<pre><xss:element name="names" type="mif:names" minOccurs="0" /></pre>				

Element mif:experimentDescription / mif:bibref

Namespace	http://psi.hupo.org/mi/mif300
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Annotations	Publication describing the experiment.
Diagram	
Type	mif:bibref
Properties	content: complex
Model	(mif:xref , mif:attributeList{0,1} (mif:attributeList)
Children	mif:attributeList, mif:xref
Instance	<pre><mif:bibref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:xref>{1,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> <mif:attributeList>{1,1}</mif:attributeList> </mif:bibref></pre>
Source	<pre><xss:element name="bibref" type="mif:bibref"> <xss:annotation> <xss:documentation>Publication describing the experiment.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:experimentDescription / mif:xref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Refers to external database description of the experiment.				
Diagram					
Type	mif:xref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:primaryRef , mif:secondaryRef*				
Children	mif:primaryRef, mif:secondaryRef				
Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref></pre>				
Source	<pre><xss:element name="xref" type="mif:xref" minOccurs="0"> <xss:annotation></pre>				

```

<xs:documentation>Refers to external database description of the experiment.</xs:documentation>
</xs:annotation>
</xs:element>

```

Element mif:experimentDescription / mif:hostOrganismList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> classDiagram class hostOrganismList { <<mif:hostOrganismList>> Type mif:hostOrganismList } class hostOrganism { <<mif:hostOrganism>> Type mif:hostOrganism } hostOrganismList "1..∞" *-- "hostOrganism" hostOrganismList --> hostOrganism note over hostOrganismList: The host organism(s) in which the experiment has been performed. </pre>
Type	mif:hostOrganismList
Properties	<p>content: complex</p> <p>minOccurs: 0</p>
Model	mif:hostOrganism+
Children	mif:hostOrganism
Instance	<pre> <mif:hostOrganismList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:hostOrganism ncbiTaxId="">{1,unbounded}</mif:hostOrganism> </mif:hostOrganismList> </pre>
Source	<pre> <xss:element name="hostOrganismList" type="mif:hostOrganismList" minOccurs="0"/> </pre>

Element mif:hostOrganismList / mif:hostOrganism

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> classDiagram class mif:hostOrganism { <<mif:hostOrganism>> Base Type mif:bioSource } class mif:bioSource { <<mif:bioSource (extension base)>> @ attributes ncbitaxid Type xs:int names Type mif:names celltype Type mif:openCvType compartment Type mif:openCvType tissue Type mif:openCvType experimentreflist Type mif:experimentRefList } mif:hostOrganism --> mif:bioSource note over mif:bioSource: Describes the biological source of an object, in simple form only the NCBI taxid. note over ncbitaxid: The names of the organism. The short label should be a common name if it exists. The full name should be the full name... note over names: Description of the cell type. Currently no species-independent controlled vocabulary for cell types is available,.... note over celltype: The subcellular compartment of the object. It is strongly recommended to refer to the Gene Ontology cellular component... note over compartment: Description of the source tissue. Currently no species-independent controlled vocabulary for tissues is available,.... note over tissue: Describes the experiment reference list. </pre>
Type	mif:hostOrganism
Type hierarchy	<ul style="list-style-type: none"> • mif:bioSource

	<ul style="list-style-type: none"> • mif:hostOrganism 										
Properties	content: complex maxOccurs: unbounded										
Model	mif:names{0,1} , mif:cellType{0,1} , mif:compartment{0,1} , mif:tissue{0,1} , mif:experimentRefList{0,1}										
Children	mif:cellType, mif:compartment, mif:experimentRefList, mif:names, mif:tissue										
Instance	<pre><mif:hostOrganism ncbiTaxId="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:cellType>{0,1}</mif:cellType> <mif:compartment>{0,1}</mif:compartment> <mif:tissue>{0,1}</mif:tissue> <mif:experimentRefList>{0,1}</mif:experimentRefList> </mif:hostOrganism></pre>										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>ncbiTaxId</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	ncbiTaxId	xs:int			required
QName	Type	Fixed	Default	Use							
ncbiTaxId	xs:int			required							
Source	<pre><xss:element name="hostOrganism" type="mif:hostOrganism" maxOccurs="unbounded" /></pre>										

Element mif:bioSource / mif:names

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The names of the organism. The short label should be a common name if it exists. The full name should be the full name of the species (i.e. genus species).
Diagram	<pre> classDiagram class mif.names { shortLabel : restriction of xs:string fullName : restriction of xs:string alias : mif.alias } note over mif.names: Names for an object. </pre>
Type	mif:names
Properties	content: complex minOccurs: 0
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*
Children	mif:alias, mif:fullName, mif:shortLabel
Instance	<pre><mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names></pre>
Source	<pre><xss:element name="names" type="mif:names" minOccurs="0"> <xss:annotation> <xss:documentation>The names of the organism. The short label should be a common name if it exists. The full name should be the full name of the species (i.e. genus species).</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:bioSource / mif:cellType

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Description of the cell type. Currently no species-independent controlled vocabulary for cell types is available, therefore the choice of reference database(s) is open to the data provider.

Diagram	<p>The diagram illustrates the structure of the <code>mif:openCvType</code> element. It has an association with <code>cellType</code> (Type: <code>mif:openCvType</code>). The <code>cellType</code> association is annotated with a note: "Description of the cell type. Currently no species-independent controlled vocabulary for cell types is available,...". The <code>mif:openCvType</code> class itself contains three associations: <code>names</code> (Type: <code>mif:names</code>), <code>xref</code> (Type: <code>mif:xref</code>), and <code>attributeList</code> (Type: <code>mif:attributeList</code>). Each of these associations has a descriptive callout box: "This contains the controlled vocabulary terms, as a short and optionally as a long form." for <code>names</code>, "Refers to the term of the controlled vocabulary in an external database." for <code>xref</code>, and "If no suitable external controlled vocabulary is available, this attributeList can be used to describe the term...." for <code>attributeList</code>. A general note at the bottom states: "Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external...".</p>				
Type	<code>mif:openCvType</code>				
Properties	<table border="0"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	<code>mif:names , mif:xref{0,1} , mif:attributeList{0,1}</code>				
Children	<code>mif:attributeList, mif:names, mif:xref</code>				
Instance	<pre><mif:cellType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> </mif:cellType></pre>				
Source	<pre><xss:element name="cellType" type="mif:openCvType" minOccurs="0"> <xss:annotation> <xss:documentation>Description of the cell type. Currently no species-independent controlled vocabulary for cell types is available, therefore the choice of reference database(s) is open to the data provider.</xss:documentation> </xss:annotation> </xss:element></pre>				

Element `mif:openCvType / mif:names`

Namespace	http://psi.hupo.org/mi/mif300		
Annotations	This contains the controlled vocabulary terms, as a short and optionally as a long form.		
Diagram	<p>The diagram illustrates the structure of the <code>mif:names</code> element. It has an association with <code>names</code> (Type: <code>mif:names</code>). The <code>names</code> association is annotated with a note: "This contains the controlled vocabulary terms, as a short and optionally as a long form.". The <code>mif:names</code> class itself contains three associations: <code>shortLabel</code> (Type: <code>restriction of 'xs:string'</code>), <code>fullName</code> (Type: <code>restriction of 'xs:string'</code>), and <code>alias</code> (Type: <code>mif:alias</code>). Each of these associations has a descriptive callout box: "A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc." for <code>shortLabel</code>, "A full, detailed name or description of the object. Can be e.g. the full title of a publication, or the scientific name..." for <code>fullName</code>, and "Names for an object." for <code>alias</code>.</p>		
Type	<code>mif:names</code>		
Properties	<table border="0"> <tr> <td>content:</td><td>complex</td></tr> </table>	content:	complex
content:	complex		
Model	<code>mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*</code>		
Children	<code>mif:alias, mif:fullName, mif:shortLabel</code>		
Instance	<pre><mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias></pre>		

	</mif:names>
Source	<pre><xs:element name="names" type="mif:names"> <xs:annotation> <xs:documentation>This contains the controlled vocabulary terms, as a short and optionally as a long form.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:openCvType / mif:xref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Refers to the term of the controlled vocabulary in an external database.				
Diagram					
Type	mif:xref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:primaryRef , mif:secondaryRef*				
Children	mif:primaryRef, mif:secondaryRef				
Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref></pre>				
Source	<pre><xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>Refers to the term of the controlled vocabulary in an external database.</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:openCvType / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	If no suitable external controlled vocabulary is available, this attributeList can be used to describe the term. Example: Attribute name: Mouse atlas tissue name; attribute value: spinal cord, day 30.				
Diagram					
Type	mif:attributeList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				
Children	mif:attribute				
Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"></pre>				

	<pre><mif:attribute name="" nameAc="" {1,unbounded}></mif:attribute> </mif:attributeList></pre>
Source	<pre><xs:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xs:annotation> <xs:documentation>If no suitable external controlled vocabulary is available, this attributeList can be used to describe the term. Example: Attribute name: Mouse atlas tissue name; attribute value: spinal cord, day 30.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:bioSource / mif:compartment

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	The subcellular compartment of the object. It is strongly recommended to refer to the Gene Ontology cellular component in this element.				
Diagram	<p>The diagram illustrates the UML class <code>mif:openCvType</code>. It has a compartment named <code>compartment</code> (Type: <code>mif:openCvType</code>) which contains the following attributes:</p> <ul style="list-style-type: none"> <code>names</code> (Type: <code>mif:names</code>): This contains the controlled vocabulary terms, as a short and optionally as a long form. <code>xref</code> (Type: <code>mif:xref</code>): Refers to the term of the controlled vocabulary in an external database. <code>attributeList</code> (Type: <code>mif:attributeList</code>): If no suitable external controlled vocabulary is available, this attributeList can be used to describe the term.... <p>A note at the bottom states: Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external...</p>				
Type	<code>mif:openCvType</code>				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	<code>mif:names , mif:xref{0,1} , mif:attributeList{0,1}</code>				
Children	<code>mif:attributeList, mif:names, mif:xref</code>				
Instance	<pre><mif:compartment xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> </mif:compartment></pre>				
Source	<pre><xs:element name="compartment" type="mif:openCvType" minOccurs="0"> <xs:annotation> <xs:documentation>The subcellular compartment of the object. It is strongly recommended to refer to the Gene Ontology cellular component in this element.</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:bioSource / mif:tissue

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Description of the source tissue. Currently no species-independent controlled vocabulary for tissues is available, therefore the choice of reference database(s) is open to the data provider.

Diagram	<p>mif:openCvType</p> <ul style="list-style-type: none"> names Type mif:names This contains the controlled vocabulary terms, as a short and optionally as a long form. xref Type mif:xref Refers to the term of the controlled vocabulary in an external database. attributeList Type mif:attributeList If no suitable external controlled vocabulary is available, this attributeList can be used to describe the term.... <p>Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external...</p>				
Type	mif:openCvType				
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td><td style="padding: 2px;">complex</td></tr> <tr> <td style="padding: 2px;">minOccurs:</td><td style="padding: 2px;">0</td></tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:names , mif:xref{0,1} , mif:attributeList{0,1}				
Children	mif:attributeList, mif:names, mif:xref				
Instance	<pre><mif:tissue xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> </mif:tissue></pre>				
Source	<pre><xss:element name="tissue" type="mif:openCvType" minOccurs="0"> <xss:annotation> <xss:documentation>Description of the source tissue. Currently no species-independent controlled vocabulary for tissues is available, therefore the choice of reference database(s) is open to the data provider.</xss:documentation> </xss:annotation> </xss:element></pre>				

Element mif:hostOrganism / mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>mif:experimentRefList</p> <p>experimentRefList Type mif:experimentRefList</p> <p>1..∞ experimentRef Type xs:int</p> <p>References an experiment already present in this entry.</p> <p>Refers to a list of experiments within the same entry.</p>				
Type	mif:experimentRefList				
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td><td style="padding: 2px;">complex</td></tr> <tr> <td style="padding: 2px;">minOccurs:</td><td style="padding: 2px;">0</td></tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:experimentRef+				
Children	mif:experimentRef				
Instance	<pre><mif:experimentRefList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{1,unbounded}</mif:experimentRef> </mif:experimentRefList></pre>				
Source	<pre><xss:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"/></pre>				

Element mif:experimentRefList / mif:experimentRef

Namespace	http://psi.hupo.org/mi/mif300
Annotations	References an experiment already present in this entry.

Diagram	
Type	xs:int
Properties	content: simple maxOccurs: unbounded
Source	<pre><xs:element name="experimentRef" type="xs:int" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>References an experiment already present in this entry.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:experimentDescription / mif:interactionDetectionMethod

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Experimental method to determine the interaction. This element is controlled by the PSI-MI controlled vocabulary "interaction detection method", root term id MI:0001.
Diagram	
Type	mif:cvType
Properties	content: complex
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<pre><mif:interactionDetectionMethod xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:interactionDetectionMethod></pre>
Source	<pre><xs:element name="interactionDetectionMethod" type="mif:cvType"> <xs:annotation> <xs:documentation>Experimental method to determine the interaction. This element is controlled by the PSI-MI controlled vocabulary "interaction detection method", root term id MI:0001.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:cvType / mif:names

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Name of the controlled vocabulary term.

Diagram	<pre> classDiagram class mif.names { shortLabel : restriction of xs:string fullName : restriction of xs:string alias : mif.alias } note over mif.names: Names for an object. </pre>
Type	mif:names
Properties	content: complex
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*
Children	mif:alias, mif:fullName, mif:shortLabel
Instance	<pre> <mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names> </pre>
Source	<pre> <xs:element name="names" type="mif:names"> <xs:annotation> <xs:documentation>Name of the controlled vocabulary term.</xs:documentation> </xs:annotation> </xs:element> </pre>

Element mif:cvType / mif:xref

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.
Diagram	<pre> classDiagram class mif.xref { primaryRef : mif.dbReference secondaryRef : mif.dbReference } note over mif.xref: Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into... </pre>
Type	mif:xref
Properties	content: complex
Model	mif:primaryRef , mif:secondaryRef*
Children	mif:primaryRef, mif:secondaryRef
Instance	<pre> <mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref> </pre>
Source	<pre> <xs:element name="xref" type="mif:xref"> <xs:annotation> <xs:documentation>Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.</xs:documentation> </xs:annotation> </xs:element> </pre>

Element mif:experimentDescription / mif:participantIdentificationMethod

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI controlled vocabulary "participant identification method", root term id MI:0002.				
Diagram	<pre> classDiagram class mif_cvType { <<Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI controlled vocabulary "participant identification method", root term id MI:0002.>> <<Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.>> <<Reference to an external controlled vocabulary.>> <<Name of the controlled vocabulary term.>> <<Type mif:names>> <<Type mif:xref>> } </pre>				
Type	mif:cvType				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:names , mif:xref				
Children	mif:names, mif:xref				
Instance	<pre> <mif:participantIdentificationMethod xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:participantIdentificationMethod> </pre>				
Source	<pre> <xss:element name="participantIdentificationMethod" type="mif:cvType" minOccurs="0"> <xss:annotation> <xss:documentation>Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI controlled vocabulary "participant identification method", root term id MI:0002.</xss:documentation> </xss:annotation> </xss:element> </pre>				

Element mif:experimentDescription / mif:featureDetectionMethod

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Experimental method to determine the features of interactors. If this element is filled it is assumed to apply to all features described in the experiment. But can be overridden by the featureDetectionMethod given in the individual feature. This element is controlled by the PSI-MI controlled vocabulary "feature detection method", root term id MI:0003.				
Diagram	<pre> classDiagram class mif_cvType { <<Experimental method to determine the features of interactors. If this element is filled it is assumed to apply to all...>> <<Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.>> <<Reference to an external controlled vocabulary.>> <<Name of the controlled vocabulary term.>> <<Type mif:names>> <<Type mif:xref>> } </pre>				
Type	mif:cvType				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:names , mif:xref				
Children	mif:names, mif:xref				
Instance	<pre> <mif:featureDetectionMethod xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> </mif:featureDetectionMethod> </pre>				

	<pre><mif:xref>{1,1}</mif:xref> </mif:featureDetectionMethod></pre>
Source	<pre><xss:element name="featureDetectionMethod" type="mif:cvType" minOccurs="0"> <xss:annotation> <xss:documentation>Experimental method to determine the features of interactors. If this element is filled it is assumed to apply to all features described in the experiment. But can be overridden by the featureDetectionMethod given in the individual feature. This element is controlled by the PSI-MI controlled vocabulary "feature detection method", root term id MI:0003.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:experimentDescription / mif:confidenceList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Confidence in this experiment. Usually a statistical measure.				
Diagram	<p>The diagram illustrates the structure of the mif:confidenceList element. It is represented as a class named 'confidenceList' with a multiplicity of 1..∞. This class has a relationship to another class named 'confidence' with a multiplicity of 1..∞. A note below the relationship states: 'A list of confidence values.'</p>				
Type	mif:confidenceList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:confidence+				
Children	mif:confidence				
Instance	<pre><mif:confidenceList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:confidence>{1,unbounded}</mif:confidence> </mif:confidenceList></pre>				
Source	<pre><xss:element name="confidenceList" type="mif:confidenceList" minOccurs="0"> <xss:annotation> <xss:documentation>Confidence in this experiment. Usually a statistical measure.</xss:documentation> </xss:annotation> </xss:element></pre>				

Element mif:confidenceList / mif:confidence

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>The diagram shows the mif:confidence class. It is associated with 'unit' (mif:openCvType) and 'value' (restriction of 'xs:string'). It also has a relationship to 'experimentRefList' (mif:experimentRefList) with a multiplicity of 1..∞. A note below the relationship states: 'Each experiment might assign a different confidence to this object. If no experimentRef is given, it is assumed this...'</p>				
Type	mif:confidence				
Type hierarchy	<ul style="list-style-type: none"> mif:confidenceBase mif:confidence 				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	maxOccurs:	unbounded
content:	complex				
maxOccurs:	unbounded				
Model	mif:unit , mif:value , mif:experimentRefList{0,1}				

Children	mif:experimentRefList, mif:unit, mif:value
Instance	<pre><mif:confidence xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:unit>{1,1}</mif:unit> <mif:value>{1,1}</mif:value> <mif:experimentRefList>{0,1}</mif:experimentRefList> </mif:confidence></pre>
Source	<pre><xss:element name="confidence" type="mif:confidence" maxOccurs="unbounded"/></pre>

Element mif:confidenceBase / mif:unit

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram illustrates the structure of the mif:openCvType element. It consists of three components: 'names' (Type mif:names), 'xref' (Type mif:xref), and 'attributeList' (Type mif:attributeList). The 'unit' (Type mif:openCvType) is associated with all three components. A note indicates that 'names' contains controlled vocabulary terms, either short or long forms. Another note states that 'xref' refers to a term in an external database. A third note specifies that 'attributeList' can be used if no suitable external controlled vocabulary is available. A final note at the bottom allows for referencing an external controlled vocabulary or including a value directly.</p>
Type	mif:openCvType
Properties	content: complex
Model	mif:names , mif:xref{0,1} , mif:attributeList{0,1}
Children	mif:attributeList, mif:names, mif:xref
Instance	<pre><mif:unit xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> </mif:unit></pre>
Source	<pre><xss:element name="unit" type="mif:openCvType"/></pre>

Element mif:confidenceBase / mif:value

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram shows the 'value' element as a restriction of 'xs:string'. It includes a facet 'restricts: string'.</p>
Type	restriction of xs:string
Properties	content: simple
Facets	minLength 1
Source	<pre><xss:element name="value"> <xss:simpleType> <xss:restriction base="xs:string"> <xss:minLength value="1"/> </xss:restriction> </xss:simpleType> </xss:element></pre>

Element mif:confidence / mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Each experiment might assign a different confidence to this object. If no experimentRef is given, it is assumed this confidence refers to all experiments linked to the object.

Diagram					
Type	mif:experimentRefList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:experimentRef+				
Children	mif:experimentRef				
Instance	<pre><mif:experimentRefList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{1,unbounded}</mif:experimentRef> </mif:experimentRefList></pre>				
Source	<pre><xs:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"> <xs:annotation> <xs:documentation>Each experiment might assign a different confidence to this object. If no experimentRef is given, it is assumed this confidence refers to all experiments linked to the object.</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:experimentDescription / mif:variableParameterList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	A list of variable parameters used in this experiment - eg - variable concentration of a specific drug.				
Diagram					
Type	mif:variableParameterList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:variableParameter+				
Children	mif:variableParameter				
Instance	<pre><mif:variableParameterList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:variableParameter>{1,unbounded}</mif:variableParameter> </mif:variableParameterList></pre>				
Source	<pre><xs:element name="variableParameterList" type="mif:variableParameterList" minOccurs="0"> <xs:annotation> <xs:documentation>A list of variable parameters used in this experiment - eg - variable concentration of a specific drug.</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:variableParameterList / mif:variableParameter

Namespace	http://psi.hupo.org/mi/mif300
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Diagram	<pre> classDiagram class variableParameter { Type mif:variableParameter } class description { Type xs:string } class unit { Type mif:openCvType } class variableValueList { Type mif:variableValueList } variableParameter "1..1" --> "1..1" description variableParameter "1..1" --> "1..1" unit variableParameter "1..1" --> "1..1" variableValueList </pre> <p>Describes one variable parameter and its values in this experiment - eg - variable concentration of a specific drug.</p>				
Type	mif:variableParameter				
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td><td style="padding: 2px;">complex</td></tr> <tr> <td style="padding: 2px;">maxOccurs:</td><td style="padding: 2px;">unbounded</td></tr> </table>	content:	complex	maxOccurs:	unbounded
content:	complex				
maxOccurs:	unbounded				
Model	mif:description , mif:unit{0,1} , mif:variableValueList				
Children	mif:description, mif:unit, mif:variableValueList				
Instance	<pre> <mif:variableParameter xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:description>{1,1}</mif:description> <mif:unit>{0,1}</mif:unit> <mif:variableValueList>{1,1}</mif:variableValueList> </mif:variableParameter> </pre>				
Source	<pre> <xs:element name="variableParameter" type="mif:variableParameter" maxOccurs="unbounded"/> </pre>				

Element mif:variableParameter / mif:description

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Free description of the variable parameter (such as cell cycle, PMA treatment, ...).
Diagram	<pre> classDiagram class description { Type xs:string } class xsstring { Type xs:string } description "1..1" --> "1..1" xsstring </pre> <p>Built-in primitive type. The string datatype represents character strings in XML.</p>
Type	xs:string
Properties	content: simple
Source	<pre> <xs:element name="description" type="xs:string"> <xs:annotation> <xs:documentation>Free description of the variable parameter (such as cell cycle, PMA treatment, ...).</xs:documentation> </xs:annotation> </xs:element> </pre>

Element mif:variableParameter / mif:unit

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Unit of the variable parameter values.

Diagram	<p>The diagram illustrates the structure of the <code>mif:openCvType</code> element. It has an association with <code>mif:unit</code> (Type: <code>mif:openCvType</code>) labeled "Unit of the variable parameter values.". It also has three associations with <code>mif:names</code> (Type: <code>mif:names</code>): one labeled "names" with a plus sign (+) indicating multiple occurrences, another labeled "xref" (Type: <code>mif:xref</code>) with a plus sign, and a third labeled "attributeList" (Type: <code>mif:attributeList</code>) with a plus sign. A callout box for "names" states: "This contains the controlled vocabulary terms, as a short and optionally as a long form." A callout box for "xref" states: "Refers to the term of the controlled vocabulary in an external database." A callout box for "attributeList" states: "If no suitable external controlled vocabulary is available, this attributeList can be used to describe the term...." A general callout box at the bottom states: "Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external...".</p>				
Type	<code>mif:openCvType</code>				
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td><td style="padding: 2px;">complex</td></tr> <tr> <td style="padding: 2px;">minOccurs:</td><td style="padding: 2px;">0</td></tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	<code>mif:names , mif:xref{0,1} , mif:attributeList{0,1}</code>				
Children	<code>mif:attributeList, mif:names, mif:xref</code>				
Instance	<pre><mif:unit xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> </mif:unit></pre>				
Source	<pre><xss:element name="unit" type="mif:openCvType" minOccurs="0"> <xss:annotation> <xss:documentation>Unit of the variable parameter values.</xss:documentation> </xss:annotation> </xss:element></pre>				

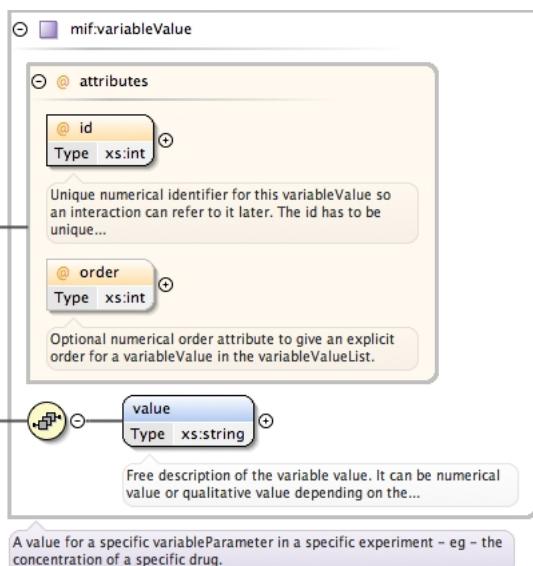
Element `mif:variableParameter / mif:variableValueList`

Namespace	<code>http://psi.hupo.org/mi/mif300</code>		
Annotations	List of the different values for this specific variableParameter in this experiment.		
Diagram	<p>The diagram illustrates the structure of the <code>mif:variableValueList</code> element. It has an association with <code>mif:variableValue</code> (Type: <code>mif:variableValue</code>) labeled "List of the different values for a specific variableParameter in a specific experiment." with a multiplicity of 1..oo. A callout box for "variableValueList" states: "List of the different values for this specific variableParameter in this experiment." A callout box for "variableValue" states: "List of the different values for a specific variableParameter in a specific experiment."</p>		
Type	<code>mif:variableValueList</code>		
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td><td style="padding: 2px;">complex</td></tr> </table>	content:	complex
content:	complex		
Model	<code>mif:variableValue+</code>		
Children	<code>mif:variableValue</code>		
Instance	<pre><mif:variableValueList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:variableValue id="" order="">{1,unbounded}</mif:variableValue> </mif:variableValueList></pre>		
Source	<pre><xss:element name="variableValueList" type="mif:variableValueList"> <xss:annotation> <xss:documentation>List of the different values for this specific variableParameter in this experiment.</xss:documentation> </xss:annotation> </xss:element></pre>		

Element `mif:variableValueList / mif:variableValue`

Namespace	<code>http://psi.hupo.org/mi/mif300</code>
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Diagram



Type	<code>mif:variableValue</code>
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Properties	content: complex maxOccurs: unbounded
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Model	<code>mif:value</code>
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Children	<code>mif:value</code>
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Instance	<pre><mif:variableValue id="" order="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:value>{1,1}</mif:value> </mif:variableValue></pre>
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Attributes	QName	Type	Fixed	Default	Use
	id	<code>xs:int</code>			required
	Unique numerical identifier for this <code>variableValue</code> so an interaction can refer to it later. The <code>id</code> has to be unique within a same entry.				
	order	<code>xs:int</code>			optional
	Optional numerical order attribute to give an explicit order for a <code>variableValue</code> in the <code>variableValueList</code> .				
Source	<code><xs:element name="variableValue" type="mif:variableValue" maxOccurs="unbounded" /></code>				

Element `mif:variableValue` / `mif:value`

Namespace	<code>http://psi.hupo.org/mi/mif300</code>
Annotations	Free description of the variable value. It can be numerical value or qualitative value depending on the <code>variableParameter</code> .
Diagram	<p>The diagram shows the UML class <code>mif:value</code>. It has one attribute:</p> <ul style="list-style-type: none"> <code>value</code>: Type <code>xs:string</code>. Description: Free description of the variable value. It can be numerical value or qualitative value depending on the...
Type	<code>xs:string</code>
Properties	content: simple
Source	<pre><xs:element name="value" type="xs:string"> <xs:annotation> <xs:documentation>Free description of the variable value. It can be numerical value or qualitative value depending on the <code>variableParameter</code>.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:experimentDescription / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Semi-structured additional description of the experiment.				
Diagram	<pre> classDiagram class attributeList { <<mif:attributeList>> } class attribute { <<mif:attribute>> } attributeList "1..∞" *-- "1..∞" attribute note over attributeList: "Semi-structured additional description of the experiment." note over attributeList: "A list of additional attributes. Open tag-value list to allow the inclusion of additional data." </pre>				
Type	mif:attributeList				
Properties	<table> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				
Children	mif:attribute				
Instance	<pre> <mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList> </pre>				
Source	<pre> <xss:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xss:annotation> <xss:documentation>Semi-structured additional description of the experiment.</xss:documentation> </xss:annotation> </xss:element> </pre>				

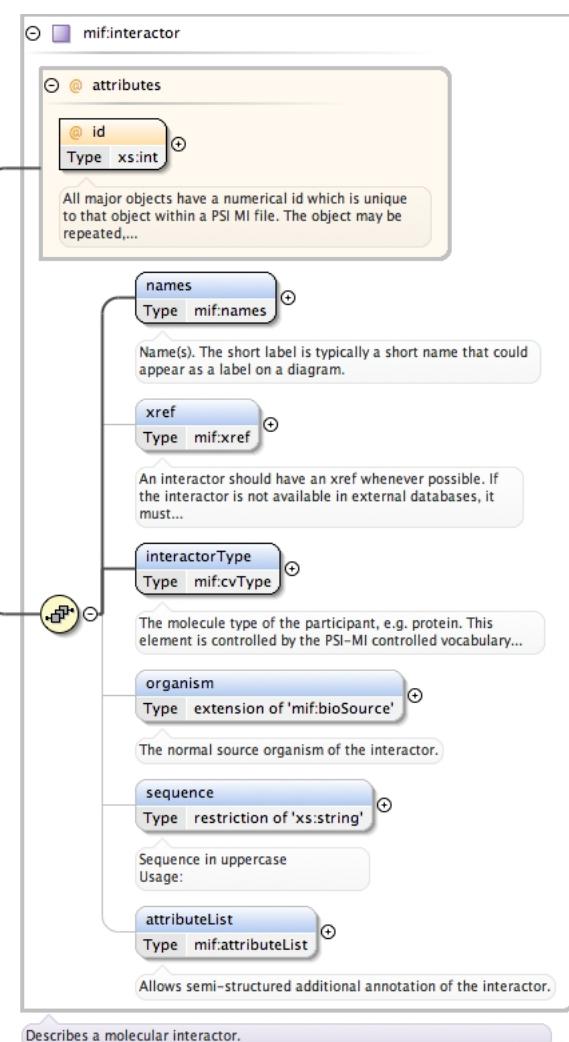
Element mif:entry / mif:interactorList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<pre> classDiagram class interactorList { <<mif:interactorList>> } class interactor { <<mif:interactor>> } interactorList "1..∞" *-- "1..∞" interactor note over interactorList: "A molecule object in its native state, as described in databases. Usage: A protein interactor must contain an xref to..." note over interactorList: "List of all interactors occurring in the entry" </pre>				
Type	mif:interactorList				
Properties	<table> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:interactor+				
Children	mif:interactor				
Instance	<pre> <mif:interactorList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:interactor id="">{1,unbounded}</mif:interactor> </mif:interactorList> </pre>				
Source	<pre> <xss:element name="interactorList" type="mif:interactorList" minOccurs="0"/> </pre>				

Element mif:interactorList / mif:interactor

Namespace	http://psi.hupo.org/mi/mif300
Annotations	<p>A molecule object in its native state, as described in databases.</p> <p>Usage: A protein interactor must contain an xref to UniProt and NCBI-GI where possible.</p>

Diagram



Type	mif:interactor																			
Properties	content: complex minOccurs: 1 maxOccurs: unbounded																			
Model	mif:names , mif:xref{0,1} , mif:interactorType , mif:organism{0,1} , mif:sequence{0,1} , mif:attributeList{0,1}																			
Children	mif:attributeList, mif:interactorType, mif:names, mif:organism, mif:sequence, mif:xref																			
Instance	<pre><mif:interactor id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:interactorType>{1,1}</mif:interactorType> <mif:organism ncbiTaxId="">{0,1}</mif:organism> <mif:sequence>{0,1}</mif:sequence> <mif:attributeList>{0,1}</mif:attributeList> </mif:interactor></pre>																			
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td colspan="4">All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required		All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.							
QName	Type	Fixed	Default	Use																
id	xs:int			required																
	All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.																			
Source	<pre><xs:element name="interactor" type="mif:interactor" minOccurs="1" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>A molecule object in its native state, as described in databases.</xs:documentation> <xs:documentation>Usage: A protein interactor must contain an xref to UniProt and NCBI-GI where possible.</xs:documentation> </xs:annotation> </xs:element></pre>																			

Element mif:interactor / mif:names

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Name(s). The short label is typically a short name that could appear as a label on a diagram.
Diagram	<pre> classDiagram class mif.names { shortLabel : xs:string fullName : xs:string alias : mif.alias } note over mif.names: Names for an object. </pre>
Type	mif:names
Properties	content: complex
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*
Children	mif:alias, mif:fullName, mif:shortLabel
Instance	<pre> <mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names> </pre>
Source	<pre> <xss:element name="names" type="mif:names"> <xss:annotation> <xss:documentation>Name(s). The short label is typically a short name that could appear as a label on a diagram.</xss:documentation> </xss:annotation> </xss:element> </pre>

Element mif:interactor / mif:xref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	An interactor should have an xref whenever possible. If the interactor is not available in external databases, it must be characterised within this object e.g. by its sequence.				
Diagram	<pre> classDiagram class mif.xref { primaryRef : mif.dbReference secondaryRef : mif.dbReference } note over mif.xref: Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into... note over mif.xref: An interactor should have an xref whenever possible. If the interactor is not available in external databases, it must... </pre>				
Type	mif:xref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:primaryRef , mif:secondaryRef*				
Children	mif:primaryRef, mif:secondaryRef				
Instance	<pre> <mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref> </pre>				

	</mif:xref>
Source	<pre><xss:element name="xref" type="mif:xref" minOccurs="0"> <xss:annotation> <xss:documentation>An interactor should have an xref whenever possible. If the interactor is not available in external databases, it must be characterised within this object e.g. by its sequence.</xss:documentation> </xss:annotation> </xss:element></pre>

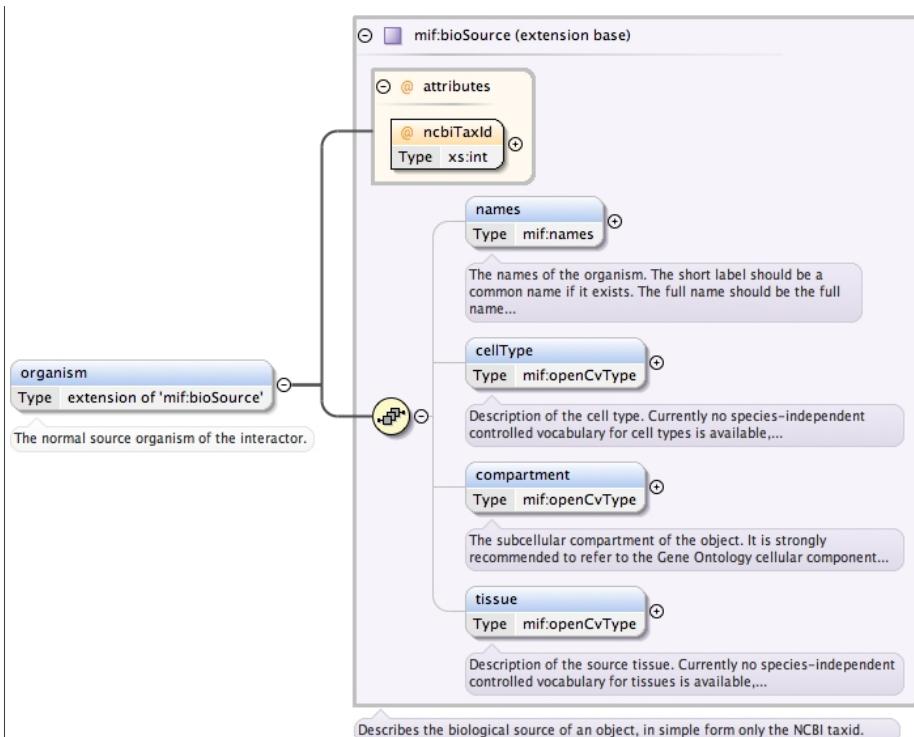
Element mif:interactor / mif:interactorType

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The molecule type of the participant, e.g. protein. This element is controlled by the PSI-MI controlled vocabulary "interactor", root term id MI:0313.
Diagram	<p>The diagram illustrates the UML class <code>mif:cvType</code>. It has two associations: one to <code>mif:names</code> (Type <code>mif:names</code>) with multiplicity <code>{1,1}</code>, and another to <code>mif:xref</code> (Type <code>mif:xref</code>) with multiplicity <code>{1,1}</code>. A note below states: "Reference to an external controlled vocabulary." A tooltip for <code>names</code> says: "Name of the controlled vocabulary term." A tooltip for <code>xref</code> says: "Source of the controlled vocabulary term. E.g. the name of the CV and the term ID."</p>
Type	<code>mif:cvType</code>
Properties	content: complex
Model	<code>mif:names</code> , <code>mif:xref</code>
Children	<code>mif:names</code> , <code>mif:xref</code>
Instance	<pre><mif:interactorType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:interactorType></pre>
Source	<pre><xss:element name="interactorType" type="mif:cvType"> <xss:annotation> <xss:documentation>The molecule type of the participant, e.g. protein. This element is controlled by the PSI-MI controlled vocabulary "interactor", root term id MI:0313.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:interactor / mif:organism

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The normal source organism of the interactor.

Diagram



Type	extension of mif:bioSource										
Type hierarchy	<ul style="list-style-type: none"> • mif:bioSource 										
Properties	<table border="1"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> </table>	content:	complex	minOccurs:	0						
content:	complex										
minOccurs:	0										
Model	mif:names{0,1} , mif:cellType{0,1} , mif:compartment{0,1} , mif:tissue{0,1}										
Children	mif:cellType, mif:compartment, mif:names, mif:tissue										
Instance	<pre><mif:organism ncbiTaxId="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:cellType>{0,1}</mif:cellType> <mif:compartment>{0,1}</mif:compartment> <mif:tissue>{0,1}</mif:tissue> </mif:organism></pre>										
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td><code>ncbiTaxId</code></td><td>xs:int</td><td></td><td></td><td>required</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>ncbiTaxId</code>	xs:int			required
QName	Type	Fixed	Default	Use							
<code>ncbiTaxId</code>	xs:int			required							
Source	<pre><xs:element name="organism" minOccurs="0"> <xs:annotation> <xs:documentation>The normal source organism of the interactor.</xs:documentation> </xs:annotation> <xs:complexType> <xs:complexContent> <xs:extension base="mif:bioSource" /> </xs:complexContent> </xs:complexType> </xs:element></pre>										

Element mif:interactor / mif:sequence

Namespace	http://psi.hupo.org/mi/mif300
Annotations	<p>Sequence in uppercase</p> <p>Usage:</p>
Diagram	<p>The diagram shows the UML class <code>sequence</code> which is a restriction of <code>xs:string</code>. It has the following attribute:</p> <ul style="list-style-type: none"> <code>restricts: string</code> <p>General notes:</p> <ul style="list-style-type: none"> Sequence in uppercase Usage:
Type	restriction of xs:string

Properties	content: simple minOccurs: 0
Facets	minLength 1
Source	<pre><xs:element name="sequence" minOccurs="0"> <xs:annotation> <xs:documentation>Sequence in uppercase</xs:documentation> <xs:documentation>Usage:</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

Element mif:interactor / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Allows semi-structured additional annotation of the interactor.
Diagram	<p>The diagram illustrates the relationship between the attributeList element and the attribute element. The attributeList element is represented by a blue rounded rectangle labeled 'attributeList' and 'Type mif:attributeList'. It has a multiplicity of 1..∞ associated with it. An association line connects it to the attribute element, which is also represented by a blue rounded rectangle labeled 'attribute' and 'Type mif:attribute'. A small yellow circle with a cross symbol is placed on the association line, indicating a generalization or specialization relationship. A callout box provides the annotation: 'Allows semi-structured additional annotation of the interactor.' Another callout box specifies the multiplicity: 'A list of additional attributes. Open tag-value list to allow the inclusion of additional data.'</p>
Type	mif:attributeList
Properties	content: complex minOccurs: 0
Model	mif:attribute+
Children	mif:attribute
Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList></pre>
Source	<pre><xs:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xs:annotation> <xs:documentation>Allows semi-structured additional annotation of the interactor.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:entry / mif:interactionList

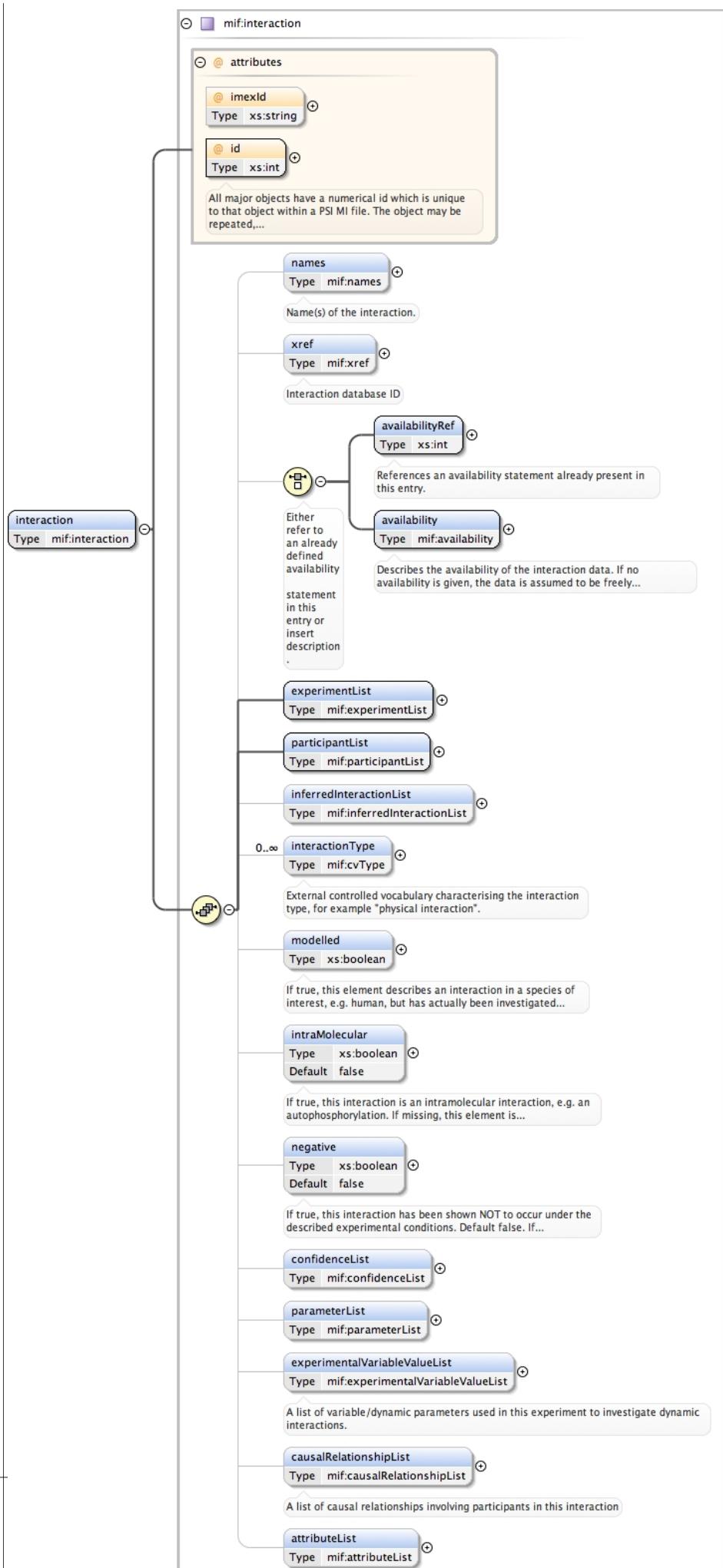
Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram illustrates the relationship between the interactionList element and the interaction and abstractInteraction elements. The interactionList element is represented by a blue rounded rectangle labeled 'interactionList' and 'Type mif:interactionList'. It has a multiplicity of 1..∞ associated with it. Two association lines connect it to the interaction element (labeled 'interaction' and 'Type mif:interaction') and the abstractInteraction element (labeled 'abstractInteraction' and 'Type mif:abstractInteraction'). A small yellow circle with a cross symbol is placed on each association line, indicating a generalization or specialization relationship. A callout box specifies the multiplicity: 'List of interactions'. Another callout box provides the annotation: 'Abstract interaction describing a stable complex, allosteric interaction , etc... These interactions are abstracted...'.</p>
Type	mif:interactionList
Properties	content: complex
Model	(mif:interaction mif:abstractInteraction)
Children	mif:abstractInteraction, mif:interaction
Instance	<pre><mif:interactionList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:interaction id="" imexId="">{1,1}</mif:interaction> <mif:abstractInteraction id="">{1,1}</mif:abstractInteraction></pre>

	</mif:interactionList>
Source	<xss:element name="interactionList" type="mif:interactionList"/>

Element mif:interactionList / mif:interaction

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	mif:interaction																								
Properties	content: complex																								
Model	mif:names{0,1} , mif:xref{0,1} , (mif:availabilityRef mif:availability) , mif:experimentList , mif:participantList , mif:inferredInteractionList{0,1} , mif:interactionType* , mif:modelled{0,1} , mif:intraMolecular{0,1} , mif:negative{0,1} , mif:confidenceList{0,1} , mif:parameterList{0,1} , mif:experimentalVariableList{0,1} , mif:causalRelationshipList{0,1} , mif:attributeList{0,1}																								
Children	mif:attributeList, mif:availability, mif:availabilityRef, mif:causalRelationshipList, mif:confidenceList, mif:experimentList, mif:experimentalVariableList, mif:inferredInteractionList, mif:interactionType, mif:intraMolecular, mif:modelled, mif:names, mif:negative, mif:parameterList, mif:participantList, mif:xref																								
Instance	<pre><mif:interaction id="" imexId="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:availabilityRef>{1,1}</mif:availabilityRef> <mif:availability id="">{1,1}</mif:availability> <mif:experimentList>{1,1}</mif:experimentList> <mif:participantList>{1,1}</mif:participantList> <mif:inferredInteractionList>{0,1}</mif:inferredInteractionList> <mif:interactionType>{0,unbounded}</mif:interactionType> <mif:modelled>{0,1}</mif:modelled> <mif:intraMolecular>{0,1}</mif:intraMolecular> <mif:negative>{0,1}</mif:negative> <mif:confidenceList>{0,1}</mif:confidenceList> <mif:parameterList>{0,1}</mif:parameterList> <mif:experimentalVariableList>{0,1}</mif:experimentalVariableList> <mif:causalRelationshipList>{0,1}</mif:causalRelationshipList> <mif:attributeList>{0,1}</mif:attributeList> </mif:interaction></pre>																								
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td colspan="4">All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</td></tr> <tr> <td>imexId</td> <td>xs:string</td> <td></td> <td></td> <td>optional</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required		All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.				imexId	xs:string			optional				
QName	Type	Fixed	Default	Use																					
id	xs:int			required																					
	All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.																								
imexId	xs:string			optional																					
Source	<xss:element name="interaction" type="mif:interaction"/>																								

Element mif:interaction / mif:names

Namespace	http://psi.hupo.org/mi/mif300								
Annotations	Name(s) of the interaction.								
Diagram	<p>mif:names</p> <p>shortLabel Type restriction of 'xs:string'</p> <p>A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc.</p> <p>fullName Type restriction of 'xs:string'</p> <p>A full, detailed name or description of the object. Can be e.g. the full title of a publication, or the scientific name...</p> <p>0..oo alias Type mif:alias</p> <p>Names for an object.</p>								
Type	mif:names								
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>					content:	complex	minOccurs:	0
content:	complex								
minOccurs:	0								
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*								
Children	mif:alias, mif:fullName, mif:shortLabel								
Instance	<pre><mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names></pre>								

Source	<pre><xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>Name(s) of the interaction.</xs:documentation> </xs:annotation> </xs:element></pre>
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Element mif:interaction / mif:xref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Interaction database ID				
Diagram					
Type	mif:xref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:primaryRef , mif:secondaryRef*				
Children	mif:primaryRef, mif:secondaryRef				
Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</ mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</ mif:secondaryRef> </mif:xref></pre>				
Source	<pre><xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>Interaction database ID</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:interaction / mif:availabilityRef

Namespace	http://psi.hupo.org/mi/mif300		
Annotations	References an availability statement already present in this entry.		
Diagram			
Type	xs:int		
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> </table>	content:	simple
content:	simple		
Source	<pre><xs:element name="availabilityRef" type="xs:int"> <xs:annotation> <xs:documentation>References an availability statement already present in this entry.</ xs:documentation> </xs:annotation> </xs:element></pre>		

Element mif:interaction / mif:availability

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Describes the availability of the interaction data. If no availability is given, the data is assumed to be freely available.

Diagram											
Type	mif:availability										
Properties	content: complex										
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td>id</td><td>xs:int</td><td></td><td></td><td>required</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required
QName	Type	Fixed	Default	Use							
id	xs:int			required							
Source	<pre><xs:element name="availability" type="mif:availability"> <xs:annotation> <xs:documentation>Describes the availability of the interaction data. If no availability is given, the data is assumed to be freely available.</xs:documentation> </xs:annotation> </xs:element></pre>										

Element mif:interaction / mif:experimentList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	
Type	mif:experimentList
Properties	content: complex
Model	mif:experimentRef mif:experimentDescription
Children	mif:experimentDescription, mif:experimentRef
Instance	<pre><mif:experimentList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{1,1}</mif:experimentRef> <mif:experimentDescription id="">{1,1}</mif:experimentDescription> </mif:experimentList></pre>
Source	<pre><xs:element name="experimentList" type="mif:experimentList"/></pre>

Element mif:experimentList / mif:experimentRef

Namespace	http://psi.hupo.org/mi/mif300
Annotations	References an experiment already present in this entry.
Diagram	

Type	xs:int
Properties	content: simple
Source	<pre><xs:element name="experimentRef" type="xs:int"> <xs:annotation> <xs:documentation>References an experiment already present in this entry.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:experimentList / mif:experimentDescription

Namespace	http://psi.hupo.org/mi/mif300
Annotations	An experiment in which this interaction has been determined.
Diagram	<p>The diagram illustrates the structure of the <code>mif:experimentDescription</code> element. It is a class with the following attributes:</p> <ul style="list-style-type: none"> <code>@ id</code>: Type <code>xs:int</code>. Description: All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated.... <code>names</code>: Type <code>mif:names</code>. <code>bibref</code>: Type <code>mif:bibref</code>. Description: Publication describing the experiment. <code>xref</code>: Type <code>mif:xref</code>. Description: Refers to external database description of the experiment. <code>hostOrganismList</code>: Type <code>mif:hostOrganismList</code>. <code>interactionDetectionMethod</code>: Type <code>mif:cvType</code>. Description: Experimental method to determine the interaction. This element is controlled by the PSI-MI controlled vocabulary... <code>participantIdentificationMethod</code>: Type <code>mif:cvType</code>. Description: Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI... <code>featureDetectionMethod</code>: Type <code>mif:cvType</code>. Description: Experimental method to determine the features of interactors. If this element is filled it is assumed to apply to all... <code>confidenceList</code>: Type <code>mif:confidenceList</code>. Description: Confidence in this experiment. Usually a statistical measure. <code>variableParameterList</code>: Type <code>mif:variableParameterList</code>. Description: A list of variable parameters used in this experiment - eg - variable concentration of a specific drug. <code>attributeList</code>: Type <code>mif:attributeList</code>. Description: Semi-structured additional description of the experiment. <p>Associations:</p> <ul style="list-style-type: none"> A self-loop association on the <code>mif:experimentDescription</code> class. An association from <code>mif:experimentList</code> to <code>mif:experimentDescription</code>.
Type	<code>mif:experimentDescription</code>
Properties	content: complex

Model	mif:names{0,1} , mif:bibref , mif:xref{0,1} , mif:hostOrganismList{0,1} , mif:interactionDetectionMethod , mif:participantIdentificationMethod{0,1} , mif:featureDetectionMethod{0,1} , mif:confidenceList{0,1} , mif:variableParameterList{0,1} , mif:attributeList{0,1}															
Children	mif:attributeList , mif:bibref , mif:confidenceList , mif:featureDetectionMethod , mif:hostOrganismList , mif:interactionDetectionMethod , mif:names , mif:participantIdentificationMethod , mif:variableParameterList , mif:xref															
Instance	<pre><mif:experimentDescription id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:bibref>{1,1}</mif:bibref> <mif:xref>{0,1}</mif:xref> <mif:hostOrganismList>{0,1}</mif:hostOrganismList> <mif:interactionDetectionMethod>{1,1}</mif:interactionDetectionMethod> <mif:participantIdentificationMethod>{0,1}</mif:participantIdentificationMethod> <mif:featureDetectionMethod>{0,1}</mif:featureDetectionMethod> <mif:confidenceList>{0,1}</mif:confidenceList> <mif:variableParameterList>{0,1}</mif:variableParameterList> <mif:attributeList>{0,1}</mif:attributeList> </mif:experimentDescription></pre>															
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td>All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required		All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.			
QName	Type	Fixed	Default	Use												
id	xs:int			required												
	All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.															
Source	<pre><xs:element name="experimentDescription" type="mif:experimentDescription"> <xs:annotation> <xs:documentation>An experiment in which this interaction has been determined.</xs:documentation> </xs:annotation> </xs:element></pre>															

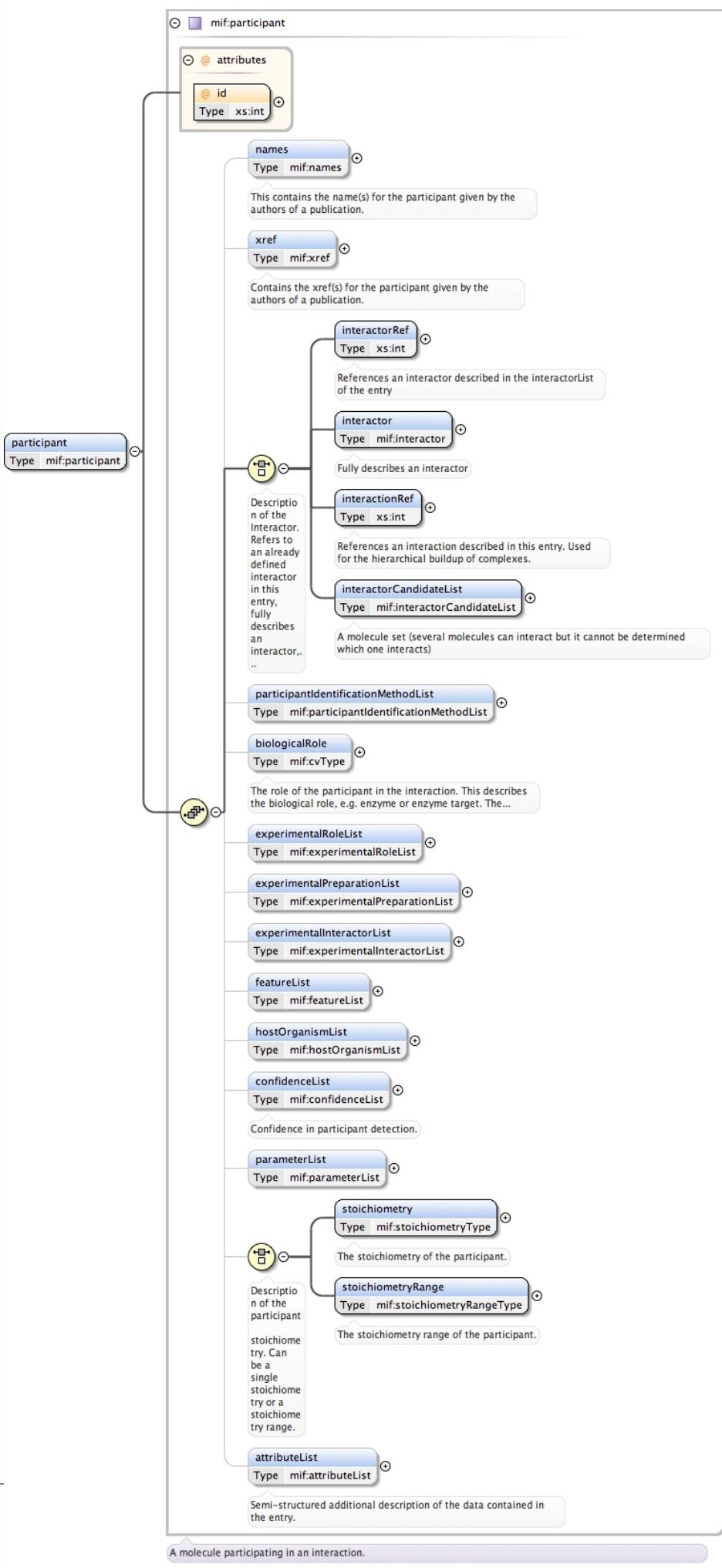
Element mif:interaction / mif:participantList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram illustrates the relationship between mif:participantList and mif:participant. A class named 'participantList' is shown with a multiplicity of 1..∞. It is associated with another class 'participant' via a relationship labeled '1..∞'. Both classes are annotated with their respective XML types: 'mif:participantList' and 'mif:participant'. A callout box provides a detailed description: 'A list of molecules participating in this interaction. An interaction has one (intramolecular), two (binary), or more...'.</p>
Type	mif:participantList
Properties	content: complex
Model	mif:participant+
Children	mif:participant
Instance	<pre><mif:participantList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:participant id="">{1,unbounded}</mif:participant> </mif:participantList></pre>
Source	<pre><xs:element name="participantList" type="mif:participantList"/></pre>

Element mif:participantList / mif:participant

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	mif:participant				
Properties	content: complex maxOccurs: unbounded				
Model	mif:names{0,1} , mif:xref{0,1} , (mif:interactorRef mif:interactor mif:interactionRef mif:interactorCandidateList) , mif:participantIdentificationMethodList{0,1} , mif:biologicalRole{0,1} , mif:experimentalRoleList{0,1} , mif:experimentalPreparationList{0,1} , mif:experimentalInteractorList{0,1} , mif:featureList{0,1} , mif:hostOrganismList{0,1} , mif:confidenceList{0,1} , mif:parameterList{0,1} , (mif:stoichiometry mif:stoichiometryRange) , mif:attributeList{0,1}				
Children	mif:attributeList, mif:biologicalRole, mif:confidenceList, mif:experimentalInteractorList, mif:experimentalPreparationList, mif:experimentalRoleList, mif:featureList, mif:hostOrganismList, mif:interactionRef, mif:interactor, mif:interactorCandidateList, mif:interactorRef, mif:names, mif:parameterList, mif:participantIdentificationMethodList, mif:stoichiometry, mif:stoichiometryRange, mif:xref				
Instance	<pre><mif:participant id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:interactorRef>{1,1}</mif:interactorRef> <mif:interactor id="">{1,1}</mif:interactor> <mif:interactionRef>{1,1}</mif:interactionRef> <mif:interactorCandidateList>{1,1}</mif:interactorCandidateList> <mif:participantIdentificationMethodList>{0,1}</mif:participantIdentificationMethodList> <mif:biologicalRole>{0,1}</mif:biologicalRole> <mif:experimentalRoleList>{0,1}</mif:experimentalRoleList> <mif:experimentalPreparationList>{0,1}</mif:experimentalPreparationList> <mif:experimentalInteractorList>{0,1}</mif:experimentalInteractorList> <mif:featureList>{0,1}</mif:featureList> <mif:hostOrganismList>{0,1}</mif:hostOrganismList> <mif:confidenceList>{0,1}</mif:confidenceList> <mif:parameterList>{0,1}</mif:parameterList> <mif:stoichiometry value="">{1,1}</mif:stoichiometry> <mif:stoichiometryRange maxValue="" minValue="">{1,1}</mif:stoichiometryRange> <mif:attributeList>{0,1}</mif:attributeList> </mif:participant></pre>				
Attributes	QName	Type	Fixed	Default	Use
	id	xs:int			required
Source	<code><xss:element name="participant" type="mif:participant" maxOccurs="unbounded" /></code>				

Element mif:participant / mif:names

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	This contains the name(s) for the participant given by the authors of a publication.				
Diagram	<p>This contains the name(s) for the participant given by the authors of a publication.</p> <p>mif:names</p> <p>shortLabel Type restriction of 'xs:string'</p> <p>A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc.</p> <p>fullName Type restriction of 'xs:string'</p> <p>A full, detailed name or description of the object. Can be e.g. the full title of a publication, or the scientific name...</p> <p>0..∞ alias Type mif:alias</p> <p>Names for an object.</p>				
Type	mif:names				
Properties	content: complex minOccurs: 0				
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*				
Children	mif:alias, mif:fullName, mif:shortLabel				
Instance	<pre><mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names></pre>				

Source	<pre><xss:element name="names" type="mif:names" minOccurs="0"> <xss:annotation> <xss:documentation>This contains the name(s) for the participant given by the authors of a publication.</xss:documentation> </xss:annotation> </xss:element></pre>
--------	--

Element mif:participant / mif:xref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Contains the xref(s) for the participant given by the authors of a publication.				
Diagram					
Type	mif:xref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:primaryRef , mif:secondaryRef*				
Children	mif:primaryRef, mif:secondaryRef				
Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</ mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</ mif:secondaryRef> </mif:xref></pre>				
Source	<pre><xss:element name="xref" type="mif:xref" minOccurs="0"> <xss:annotation> <xss:documentation>Contains the xref(s) for the participant given by the authors of a publication.</xss:documentation> </xss:annotation> </xss:element></pre>				

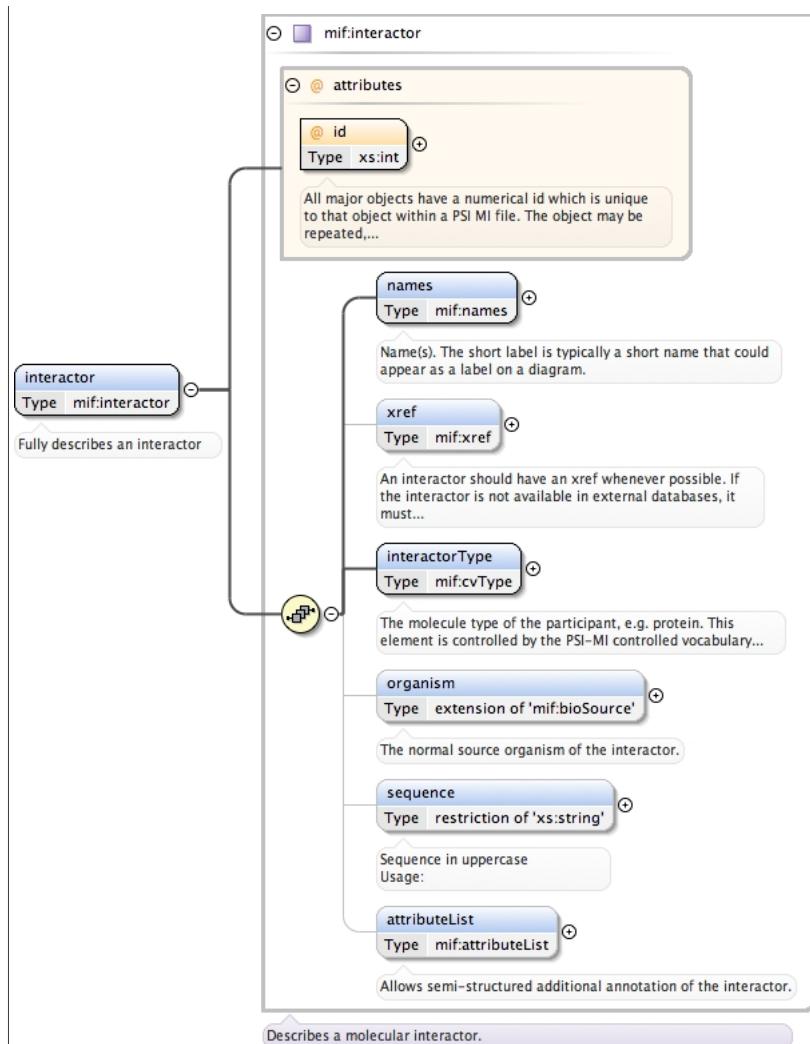
Element mif:participant / mif:interactorRef

Namespace	http://psi.hupo.org/mi/mif300		
Annotations	References an interactor described in the interactorList of the entry		
Diagram			
Type	xs:int		
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> </table>	content:	simple
content:	simple		
Source	<pre><xss:element name="interactorRef" type="xs:int"> <xss:annotation> <xss:documentation>References an interactor described in the interactorList of the entry</ xs:documentation> </xss:annotation> </xss:element></pre>		

Element mif:participant / mif:interactor

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Fully describes an interactor

Diagram



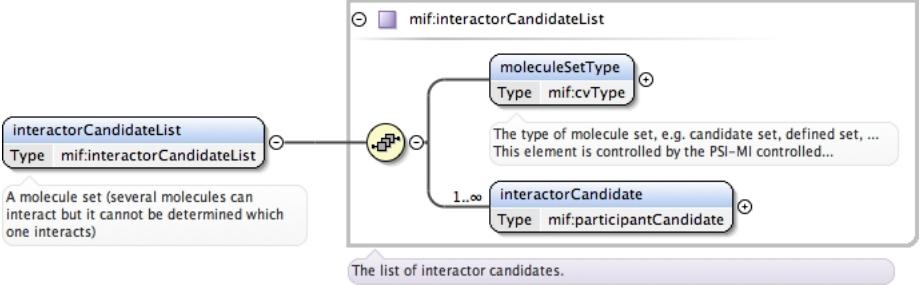
Type	mif:interactor																			
Properties	content: complex																			
Model	mif:names , mif:xref{0,1} , mif:interactorType , mif:organism{0,1} , mif:sequence{0,1} , mif:attributeList{0,1}																			
Children	mif:attributeList, mif:interactorType, mif:names, mif:organism, mif:sequence, mif:xref																			
Instance	<pre><mif:interactor id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:interactorType>{1,1}</mif:interactorType> <mif:organism ncbiTaxId="">{0,1}</mif:organism> <mif:sequence>{0,1}</mif:sequence> <mif:attributeList>{0,1}</mif:attributeList> </mif:interactor></pre>																			
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td><code>id</code></td> <td><code>xs:int</code></td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td></td> <td colspan="3" rowspan="2">All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>id</code>	<code>xs:int</code>			required			All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.						
QName	Type	Fixed	Default	Use																
<code>id</code>	<code>xs:int</code>			required																
		All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.																		
Source	<pre><x:element name="interactor" type="mif:interactor"> <x:annotation> <x:documentation>Fully describes an interactor</x:documentation> </x:annotation> </x:element></pre>																			

Element mif:participant / mif:interactionRef

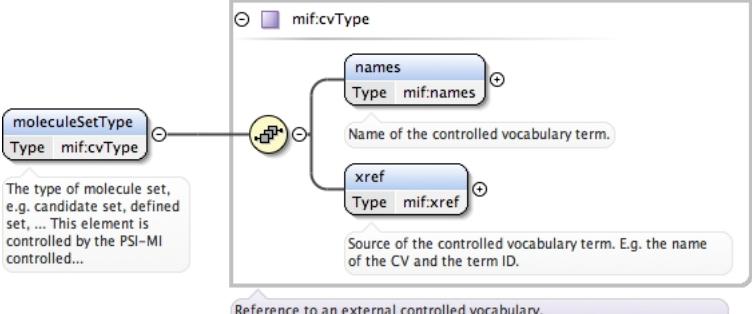
Namespace	http://psi.hupo.org/mi/mif300
Annotations	References an interaction described in this entry. Used for the hierarchical buildup of complexes.

Diagram	
	<p>References an interaction described in this entry. Used for the hierarchical buildup of complexes.</p> <p>Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...</p>
Type	xs:int
Properties	content: simple
Source	<pre><xs:element name="interactionRef" type="xs:int"> <xs:annotation> <xs:documentation>References an interaction described in this entry. Used for the hierarchical buildup of complexes.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:participant / mif:interactorCandidateList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A molecule set (several molecules can interact but it cannot be determined which one interacts)
Diagram	
Type	mif:interactorCandidateList
Properties	content: complex
Model	mif:moleculeSetType , mif:interactorCandidate+
Children	mif:interactorCandidate, mif:moleculeSetType
Instance	<pre><mif:interactorCandidateList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:moleculeSetType>{1,1}</mif:moleculeSetType> <mif:interactorCandidate id="">{1,unbounded}</mif:interactorCandidate> </mif:interactorCandidateList></pre>
Source	<pre><xs:element name="interactorCandidateList" type="mif:interactorCandidateList"> <xs:annotation> <xs:documentation>A molecule set (several molecules can interact but it cannot be determined which one interacts)</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:interactorCandidateList / mif:moleculeSetType

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The type of molecule set, e.g. candidate set, defined set, ... This element is controlled by the PSI-MI controlled vocabulary "interactor", root term id MI:1304.
Diagram	
Type	mif:cvType

Properties	content: complex minOccurs: 1
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<mif:moleculeSetType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:moleculeSetType>
Source	<xs:element name="moleculeSetType" type="mif:cvType" minOccurs="1"> <xs:annotation> <xs:documentation>The type of molecule set, e.g. candidate set, defined set, ... This element is controlled by the PSI-MI controlled vocabulary "interactor", root term id MI:1304.</xs:documentation> </xs:annotation> </xs:element>

Element mif:interactorCandidateList / mif:interactorCandidate

Namespace	http://psi.hupo.org/mi/mif300										
Diagram											
Type	mif:participantCandidate										
Type hierarchy	<ul style="list-style-type: none"> • mif:participantCandidateParent <ul style="list-style-type: none"> • mif:participantCandidate 										
Properties	content: complex minOccurs: 1 maxOccurs: unbounded										
Model	(mif:interactorRef mif:interactor) , mif:featureList{0,1}										
Children	mif:featureList, mif:interactor, mif:interactorRef										
Instance	<mif:interactorCandidate id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:interactorRef>{1,1}</mif:interactorRef> <mif:interactor id="">{1,1}</mif:interactor> <mif:featureList>{0,1}</mif:featureList> </mif:interactorCandidate>										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required
QName	Type	Fixed	Default	Use							
id	xs:int			required							

Source	<pre><xss:element name="interactorCandidate" type="mif:participantCandidate" maxOccurs="unbounded" minOccurs="1"/></pre>
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Element mif:participantCandidateParent / mif:interactorRef

Namespace	http://psi.hupo.org/mi/mif300
Annotations	References an interactor described in the interactorList of the entry
Diagram	<p>References an interactor described in the interactorList of the entry</p> <p>Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...</p>
Type	xs:int
Properties	content: simple
Source	<pre><xss:element name="interactorRef" type="xs:int"> <xss:annotation> <xss:documentation>References an interactor described in the interactorList of the entry</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:participantCandidateParent / mif:interactor

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Fully describes an interactor
Diagram	<p>Describes a molecular interactor.</p> <p>mif:interactor</p> <ul style="list-style-type: none"> Attributes <ul style="list-style-type: none"> @ id (Type xs:int) <p>All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated,...</p> names (Type mif:names) <p>Name(s). The short label is typically a short name that could appear as a label on a diagram.</p> xref (Type mif:xref) <p>An interactor should have an xref whenever possible. If the interactor is not available in external databases, it must...</p> interactorType (Type mif:cvType) <p>The molecule type of the participant, e.g. protein. This element is controlled by the PSI-MI controlled vocabulary...</p> organism (Type extension of 'mif:bioSource') <p>The normal source organism of the interactor.</p> sequence (Type restriction of 'xs:string') <p>Sequence in uppercase Usage:</p> attributeList (Type mif:attributeList) <p>Allows semi-structured additional annotation of the interactor.</p> <p>Fully describes an interactor</p>
Type	mif:interactor

Properties	content: complex				
Model	mif:names , mif:xref{0,1} , mif:interactorType , mif:organism{0,1} , mif:sequence{0,1} , mif:attributeList{0,1}				
Children	mif:attributeList, mif:interactorType, mif:names, mif:organism, mif:sequence, mif:xref				
Instance	<pre><mif:interactor id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:interactorType>{1,1}</mif:interactorType> <mif:organism ncbiTaxId="">{0,1}</mif:organism> <mif:sequence>{0,1}</mif:sequence> <mif:attributeList>{0,1}</mif:attributeList> </mif:interactor></pre>				
Attributes	QName id	Type xs:int	Fixed	Default	Use required
		All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.			
Source	<pre><xss:element name="interactor" type="mif:interactor"> <xss:annotation> <xss:documentation>Fully describes an interactor</xss:documentation> </xss:annotation> </xss:element></pre>				

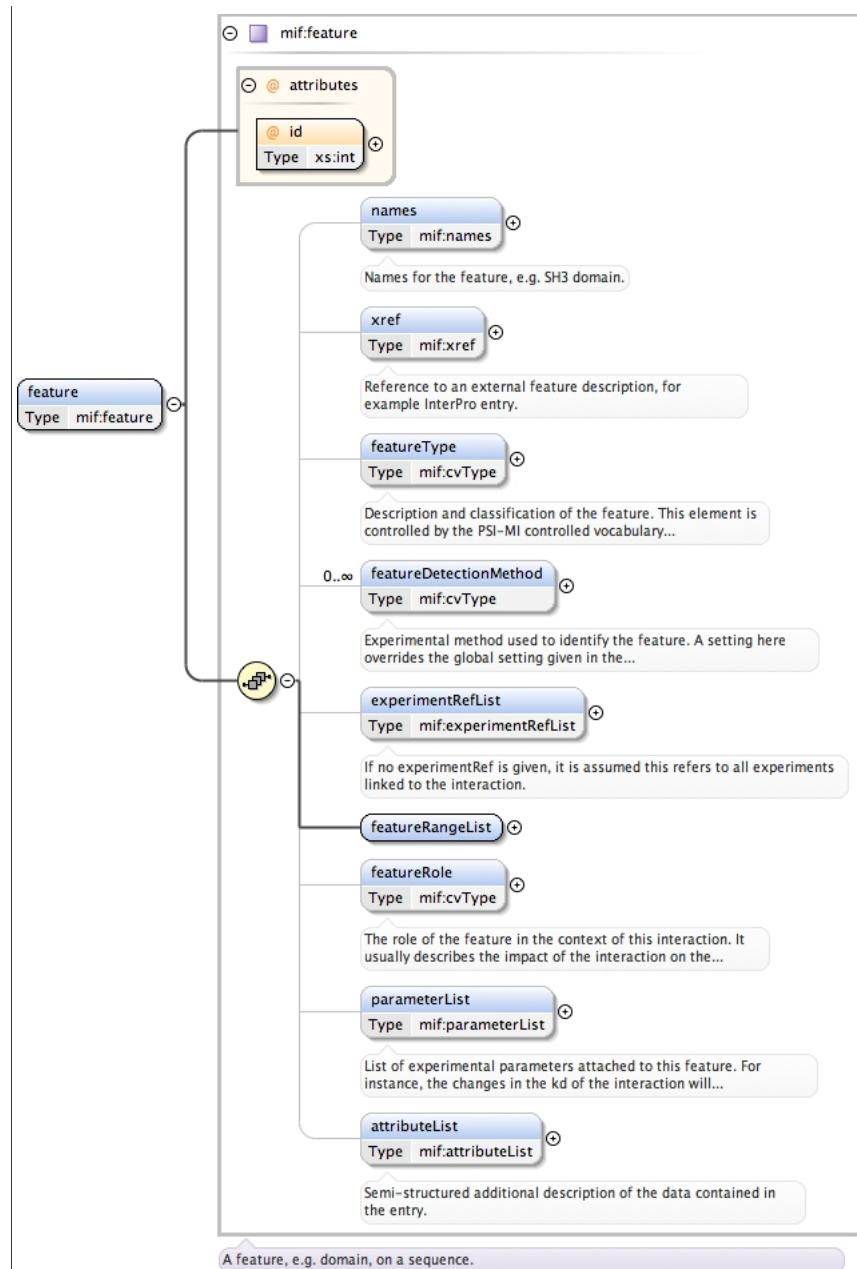
Element mif:participantCandidate / mif:featureList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram illustrates the relationship between the mif:featureList element. It shows two instances of the element: one labeled "featureList Type mif:featureList" and another labeled "mif:featureList". A directed association connects them, indicated by a line with open circles at both ends. The multiplicity "1..infinity" is placed near the line, indicating that many featureList elements can be associated with one mif:featureList element. A callout box provides a detailed description: "Sequence features relevant for the interaction, for example binding domains, and experimental modifications, e.g...."</p>
Type	mif:featureList
Properties	content: complex minOccurs: 0
Model	mif:feature+
Children	mif:feature
Instance	<pre><mif:featureList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:feature id="">{1,unbounded}</mif:feature> </mif:featureList></pre>
Source	<pre><xss:element name="featureList" type="mif:featureList" minOccurs="0"/></pre>

Element mif:featureList / mif:feature

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	<code>mif:feature</code>				
Properties	<table border="1"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>maxOccurs:</td><td>unbounded</td></tr> </table>	content:	complex	maxOccurs:	unbounded
content:	complex				
maxOccurs:	unbounded				
Model	<code>mif:names{0,1}</code> , <code>mif:xref{0,1}</code> , <code>mif:featureType{0,1}</code> , <code>mif:featureDetectionMethod*</code> , <code>mif:experimentRefList{0,1}</code> , <code>mif:featureRangeList</code> , <code>mif:featureRole{0,1}</code> , <code>mif:parameterList{0,1}</code> , <code>mif:attributeList{0,1}</code>				
Children	<code>mif:attributeList</code> , <code>mif:experimentRefList</code> , <code>mif:featureDetectionMethod</code> , <code>mif:featureRangeList</code> , <code>mif:featureRole</code> , <code>mif:featureType</code> , <code>mif:names</code> , <code>mif:parameterList</code> , <code>mif:xref</code>				
Instance	<pre><mif:feature id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:featureType>{0,1}</mif:featureType> <mif:featureDetectionMethod>{0,unbounded}</mif:featureDetectionMethod> <mif:experimentRefList>{0,1}</mif:experimentRefList> <mif:featureRangeList>{1,1}</mif:featureRangeList> <mif:featureRole>{0,1}</mif:featureRole> <mif:parameterList>{0,1}</mif:parameterList> <mif:attributeList>{0,1}</mif:attributeList> </mif:feature></pre>				

Attributes	QName	Type	Fixed	Default	Use
	id	xs:int			required
Source	<xs:element name="feature" type="mif:feature" maxOccurs="unbounded" />				

Element mif:feature / mif:names

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Names for the feature, e.g. SH3 domain.				
Diagram	<pre> classDiagram class mif.names { shortLabel : restriction of xs:string fullName : restriction of xs:string alias : mif.alias } note over mif.names: Names for an object. </pre>				
Type	mif:names				
Properties	<p>content: complex</p> <p>minOccurs: 0</p>				
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*				
Children	mif:alias, mif:fullName, mif:shortLabel				
Instance	<mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names>				
Source	<xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>Names for the feature, e.g. SH3 domain.</xs:documentation> </xs:annotation> </xs:element>				

Element mif:feature / mif:xref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Reference to an external feature description, for example InterPro entry.				
Diagram	<pre> classDiagram class mif.xref { primaryRef : mif.dbReference secondaryRef : mif.dbReference } note over mif.xref: Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into... note over mif.xref: Reference to an external feature description, for example InterPro entry. </pre>				
Type	mif:xref				
Properties	<p>content: complex</p> <p>minOccurs: 0</p>				
Model	mif:primaryRef , mif:secondaryRef*				
Children	mif:primaryRef, mif:secondaryRef				

Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref></pre>
Source	<pre><xss:element name="xref" type="mif:xref" minOccurs="0"> <xss:annotation> <xss:documentation>Reference to an external feature description, for example InterPro entry.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:feature / mif:featureType

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Description and classification of the feature. This element is controlled by the PSI-MI controlled vocabulary "feature", root term id MI:0116.						
Diagram	<p>The diagram illustrates the UML class <code>mif:cvType</code>. It has two associations: one to <code>mif:names</code> (Type <code>mif:cvType</code>) and another to <code>mif:xref</code> (Type <code>mif:cvType</code>). A note below states: "Description and classification of the feature. This element is controlled by the PSI-MI controlled vocabulary "feature", root term id MI:0116." A callout points to the <code>names</code> association with the text: "Name of the controlled vocabulary term." Another callout points to the <code>xref</code> association with the text: "Source of the controlled vocabulary term. E.g. the name of the CV and the term ID." A general note at the bottom right says: "Reference to an external controlled vocabulary."</p>						
Type	<code>mif:cvType</code>						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	1
content:	complex						
minOccurs:	0						
maxOccurs:	1						
Model	<code>mif:names</code> , <code>mif:xref</code>						
Children	<code>mif:names</code> , <code>mif:xref</code>						
Instance	<pre><mif:featureType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:featureType></pre>						
Source	<pre><xss:element name="featureType" type="mif:cvType" maxOccurs="1" minOccurs="0"> <xss:annotation> <xss:documentation>Description and classification of the feature. This element is controlled by the PSI-MI controlled vocabulary "feature", root term id MI:0116.</xss:documentation> </xss:annotation> </xss:element></pre>						

Element mif:feature / mif:featureDetectionMethod

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Experimental method used to identify the feature. A setting here overrides the global setting given in the experimentDescription. External controlled vocabulary.

Diagram							
Type	mif:cvType						
Properties	<table border="1"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> <tr> <td>maxOccurs:</td><td>unbounded</td></tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	unbounded
content:	complex						
minOccurs:	0						
maxOccurs:	unbounded						
Model	mif:names , mif:xref						
Children	mif:names, mif:xref						
Instance	<pre><mif:featureDetectionMethod xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:featureDetectionMethod></pre>						
Source	<pre><x:element name="featureDetectionMethod" type="mif:cvType" maxOccurs="unbounded" minOccurs="0"> <x:annotation> <x:documentation>Experimental method used to identify the feature. A setting here overrides the global setting given in the experimentDescription. External controlled vocabulary.</x:documentation> </x:annotation> </x:element></pre>						

Element mif:feature / mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.				
Diagram					
Type	mif:experimentRefList				
Properties	<table border="1"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:experimentRef+				
Children	mif:experimentRef				
Instance	<pre><mif:experimentRefList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{1,unbounded}</mif:experimentRef> </mif:experimentRefList></pre>				
Source	<pre><x:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"> <x:annotation> <x:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</x:documentation> </x:annotation> </x:element></pre>				

Element mif:feature / mif:featureRangeList

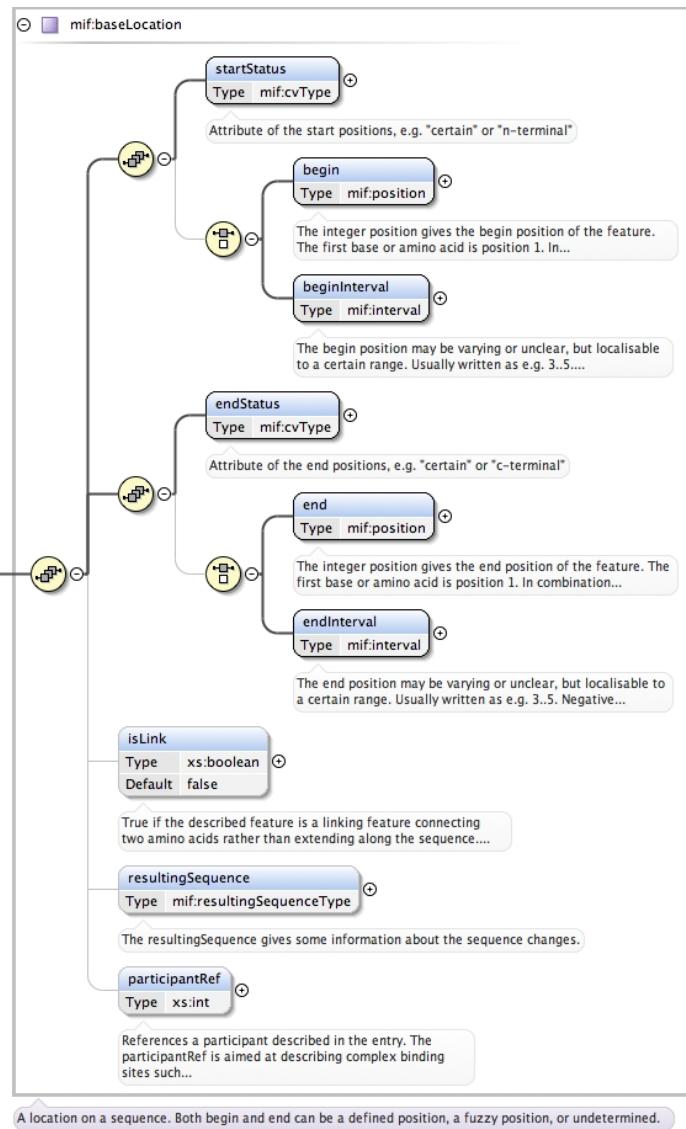
Namespace	http://psi.hupo.org/mi/mif300
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Diagram	<p>Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g....</p>
Properties	content: complex
Model	mif:featureRange+
Children	mif:featureRange
Instance	<pre><mif:featureRangeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:featureRange>{1,unbounded}</mif:featureRange> </mif:featureRangeList></pre>
Source	<pre><xs:element name="featureRangeList"> <xs:complexType> <xs:sequence> <xs:element name="featureRange" type="mif:baseLocation" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g. for features which involve sequence positions close in the folded, three-dimensional state of a protein, but non-continuous along the sequence.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </xs:element></pre>

Element mif:feature / mif:featureRangeList / mif:featureRange

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g. for features which involve sequence positions close in the folded, three-dimensional state of a protein, but non-continuous along the sequence.

Diagram



Type	<code>mif:baseLocation</code>				
Properties	<table border="1"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>maxOccurs:</td><td>unbounded</td></tr> </table>	content:	complex	maxOccurs:	unbounded
content:	complex				
maxOccurs:	unbounded				
Model	<code>mif:startStatus , (mif:begin mif:beginInterval) , mif:endStatus , (mif:end mif:endInterval) , mif:isLink{0,1} , mif:resultingSequence{0,1} , mif:participantRef{0,1}</code>				
Children	<code>mif:begin, mif:beginInterval, mif:end, mif:endInterval, mif:endStatus, mif:isLink, mif:participantRef, mif:resultingSequence, mif:startStatus</code>				
Instance	<pre><mif:featureRange xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:startStatus>{1,1}</mif:startStatus> <mif:begin position="">{1,1}</mif:begin> <mif:beginInterval begin="" end="">{1,1}</mif:beginInterval> <mif:endStatus>{1,1}</mif:endStatus> <mif:end position="">{1,1}</mif:end> <mif:endInterval begin="" end="">{1,1}</mif:endInterval> <mif:isLink>{0,1}</mif:isLink> <mif:resultingSequence>{0,1}</mif:resultingSequence> <mif:participantRef>{0,1}</mif:participantRef> </mif:featureRange></pre>				
Source	<pre><xss:element name="featureRange" type="mif:baseLocation" maxOccurs="unbounded"> <xss:annotation> <xss:documentation>Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g. for features which involve sequence positions close in the folded, three-dimensional state of a protein, but non-continuous along the sequence.</xss:documentation> </xss:annotation> </xss:element></pre>				

Element mif:baseLocation / mif:startStatus

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Attribute of the start positions, e.g. "certain" or "n-terminal"
Diagram	
Type	mif:cvType
Properties	content: complex
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<pre><mif:startStatus xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:startStatus></pre>
Source	<pre><xss:element name="startStatus" type="mif:cvType"> <xss:annotation> <xss:documentation>Attribute of the start positions, e.g. "certain" or "n-terminal"</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:baseLocation / mif:begin

Namespace	http://psi.hupo.org/mi/mif300										
Annotations	The integer position gives the begin position of the feature. The first base or amino acid is position 1. In combination with the numeric value, the attribute 'status' allows to express fuzzy positions, e.g. 'less than 4'. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins										
Diagram											
Type	mif:position										
Properties	content: complex										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>position</td> <td>xs:long</td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	position	xs:long			required
QName	Type	Fixed	Default	Use							
position	xs:long			required							
Source	<pre><xss:element name="begin" type="mif:position"> <xss:annotation> <xss:documentation>The integer position gives the begin position of the feature. The first base or amino acid is position 1. In combination with the numeric value, the attribute 'status' allows to express fuzzy positions, e.g. 'less than 4'. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</xss:documentation> </xss:annotation> </xss:element></pre>										

Element mif:baseLocation / mif:beginInterval

Namespace	http://psi.hupo.org/mi/mif300																			
Annotations	<p>The begin position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5.</p> <p>Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</p>																			
Diagram	<pre> classDiagram class mif::interval { @ begin xs:long @ end xs:long } note over mif::interval: The begin position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5....\nA interval on a sequence. </pre>																			
Type	mif:interval																			
Properties	content: complex																			
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>begin</td> <td>xs:long</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td>end</td> <td>xs:long</td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>					QName	Type	Fixed	Default	Use	begin	xs:long			required	end	xs:long			required
QName	Type	Fixed	Default	Use																
begin	xs:long			required																
end	xs:long			required																
Source	<pre> <xs:element name="beginInterval" type="mif:interval"> <xs:annotation> <xs:documentation>The begin position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</xs:documentation> </xs:annotation> </xs:element> </pre>																			

Element mif:baseLocation / mif:endStatus

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Attribute of the end positions, e.g. "certain" or "c-terminal"				
Diagram	<pre> classDiagram class mif::cvType { names mif:names xref mif:xref } note over mif::cvType: Attribute of the end positions, e.g. "certain" or "c-terminal"\nName of the controlled vocabulary term. </pre>				
Type	mif:cvType				
Properties	content: complex				
Model	mif:names , mif:xref				
Children	mif:names, mif:xref				
Instance	<pre> <mif:endStatus xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:endStatus> </pre>				
Source	<pre> <xs:element name="endStatus" type="mif:cvType"> <xs:annotation> <xs:documentation>Attribute of the end positions, e.g. "certain" or "c-terminal"</xs:documentation> </xs:annotation> </xs:element> </pre>				

Element mif:baseLocation / mif:end

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	<p>The integer position gives the end position of the feature. The first base or amino acid is position 1.</p> <p>In combination with the numeric value, the attribute 'status' allows to express fuzzy positions, e.g. 'more than 400'.</p> <p>Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</p>				
Diagram	<pre> classDiagram class mifPosition { @ attributes @ position xs:long } end --> mifPosition note over end: The integer position gives the end position of the feature. The first base or amino acid is position 1. In combination... </pre>				
Type	mif:position				
Properties	content: complex				
Attributes	QName	Type	Fixed	Default	Use
	position	xs:long			required
Source	<pre> <xss:element name="end" type="mif:position"> <xss:annotation> <xss:documentation>The integer position gives the end position of the feature. The first base or amino acid is position 1. In combination with the numeric value, the attribute 'status' allows to express fuzzy positions, e.g. 'more than 400'. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</xss:documentation> </xss:annotation> </xss:element> </pre>				

Element mif:baseLocation / mif:endInterval

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	<p>The end position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5.</p> <p>Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</p>				
Diagram	<pre> classDiagram class mifInterval { @ begin xs:long @ end xs:long } end --> mifInterval note over end: The end position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5. Negative... note over bottomRight: A interval on a sequence. </pre>				
Type	mif:interval				
Properties	content: complex				
Attributes	QName	Type	Fixed	Default	Use
	begin	xs:long			required
	end	xs:long			required
Source	<pre> <xss:element name="endInterval" type="mif:interval"> <xss:annotation> <xss:documentation>The end position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</xss:documentation> </xss:annotation> </xss:element> </pre>				

<pre></xs:element></pre>

Element mif:baseLocation / mif:isLink

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	True if the described feature is a linking feature connecting two amino acids rather than extending along the sequence. 'begin' references the first amino acid, 'end' the second. Standard example is a disulfide bridge. Does not reference another feature, therefore is only suitable for linking features on the same amino acid chain.						
Diagram							
Type	xs:boolean						
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td> <td style="padding: 2px;">simple</td> </tr> <tr> <td style="padding: 2px;">minOccurs:</td> <td style="padding: 2px;">0</td> </tr> <tr> <td style="padding: 2px;">default:</td> <td style="padding: 2px;">false</td> </tr> </table>	content:	simple	minOccurs:	0	default:	false
content:	simple						
minOccurs:	0						
default:	false						
Source	<pre><xs:element name="isLink" type="xs:boolean" default="false" minOccurs="0"> <xs:annotation> <xs:documentation>True if the described feature is a linking feature connecting two amino acids rather than extending along the sequence. 'begin' references the first amino acid, 'end' the second. Standard example is a disulfide bridge. Does not reference another feature, therefore is only suitable for linking features on the same amino acid chain.</xs:documentation> </xs:annotation> </xs:element></pre>						

Element mif:baseLocation / mif:resultingSequence

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	The resultingSequence gives some information about the sequence changes.						
Diagram							
Type	mif:resultingSequenceType						
Properties	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">content:</td> <td style="padding: 2px;">complex</td> </tr> <tr> <td style="padding: 2px;">minOccurs:</td> <td style="padding: 2px;">0</td> </tr> <tr> <td style="padding: 2px;">maxOccurs:</td> <td style="padding: 2px;">1</td> </tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	1
content:	complex						
minOccurs:	0						
maxOccurs:	1						
Model	(mif:originalSequence , mif:newSequence , mif:xref{0,1}) (mif:xref)						
Children	mif:newSequence, mif:originalSequence, mif:xref						
Instance	<pre><mif:resultingSequence xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:originalSequence>{1,1}</mif:originalSequence> <mif:newSequence>{1,1}</mif:newSequence> <mif:xref>{0,1}</mif:xref> <mif:xref>{1,1}</mif:xref></pre>						

	</mif:resultingSequence>
Source	<pre><xss:element name="resultingSequence" type="mif:resultingSequenceType" minOccurs="0" maxOccurs="1"> <xss:annotation> <xss:documentation>The resultingSequence gives some information about the sequence changes.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:resultingSequenceType / mif:originalSequence

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The original sequence portion.
Diagram	
Properties	minOccurs: 1 maxOccurs: 1
Source	<pre><xss:element name="originalSequence" minOccurs="1" maxOccurs="1"> <xss:annotation> <xss:documentation>The original sequence portion.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:resultingSequenceType / mif:newSequence

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The mutated or transformed sequence portion.
Diagram	
Properties	minOccurs: 1 maxOccurs: 1
Source	<pre><xss:element name="newSequence" minOccurs="1" maxOccurs="1"> <xss:annotation> <xss:documentation>The mutated or transformed sequence portion.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:resultingSequenceType / mif:xref

Namespace	http://psi.hupo.org/mi/mif300
Annotations	External cross reference to a genetic variation database such as dbSNP.
Diagram	<p>mif:xref</p> <p>xref Type mif:xref</p> <p>External cross reference to a genetic variation database such as dbSNP.</p> <p>Primary reference to an external database.</p> <p>0..∞ secondaryRef Type mif:dbReference</p> <p>Further external objects describing the object.</p> <p>Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into...</p>
Type	mif:xref
Properties	content: complex minOccurs: 0
Model	mif:primaryRef , mif:secondaryRef*
Children	mif:primaryRef, mif:secondaryRef

Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref></pre>
Source	<pre><xss:element name="xref" type="mif:xref" minOccurs="0"> <xss:annotation> <xss:documentation>External cross reference to a genetic variation database such as dbSNP.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:baseLocation / mif:participantRef

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	References a participant described in the entry. The participantRef is aimed at describing complex binding sites such as composite binding sites where the participant is an interaction and the binding site ranges has to specify which participant in the subunit it refers to.						
Diagram	<p>participantRef Type xs:int</p> <p>References a participant described in the entry. The participantRef is aimed at describing complex binding sites such...</p> <p>Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...</p>						
Type	xs:int						
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	1
content:	simple						
minOccurs:	0						
maxOccurs:	1						
Source	<pre><xss:element name="participantRef" type="xs:int" minOccurs="0" maxOccurs="1"> <xss:annotation> <xss:documentation>References a participant described in the entry. The participantRef is aimed at describing complex binding sites such as composite binding sites where the participant is an interaction and the binding site ranges has to specify which participant in the subunit it refers to.</xss:documentation> </xss:annotation> </xss:element></pre>						

Element mif:feature / mif:featureRole

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of the feature on the interaction. (Ex: prerequisite-ptm,...).						
Diagram	<p>featureRole Type mif:cvType</p> <p>The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the...</p> <p>mif:cvType</p> <p>names Type mif:names</p> <p>Name of the controlled vocabulary term.</p> <p>xref Type mif:xref</p> <p>Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.</p> <p>Reference to an external controlled vocabulary.</p>						
Type	mif:cvType						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	1
content:	complex						
minOccurs:	0						
maxOccurs:	1						

Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<pre><mif:featureRole xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:featureRole></pre>
Source	<pre><xs:element name="featureRole" type="mif:cvType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of the feature on the interaction. (Ex: prerequisite-ptm,...).</xs:documentation> </xs:annotation> </xs:element></pre>

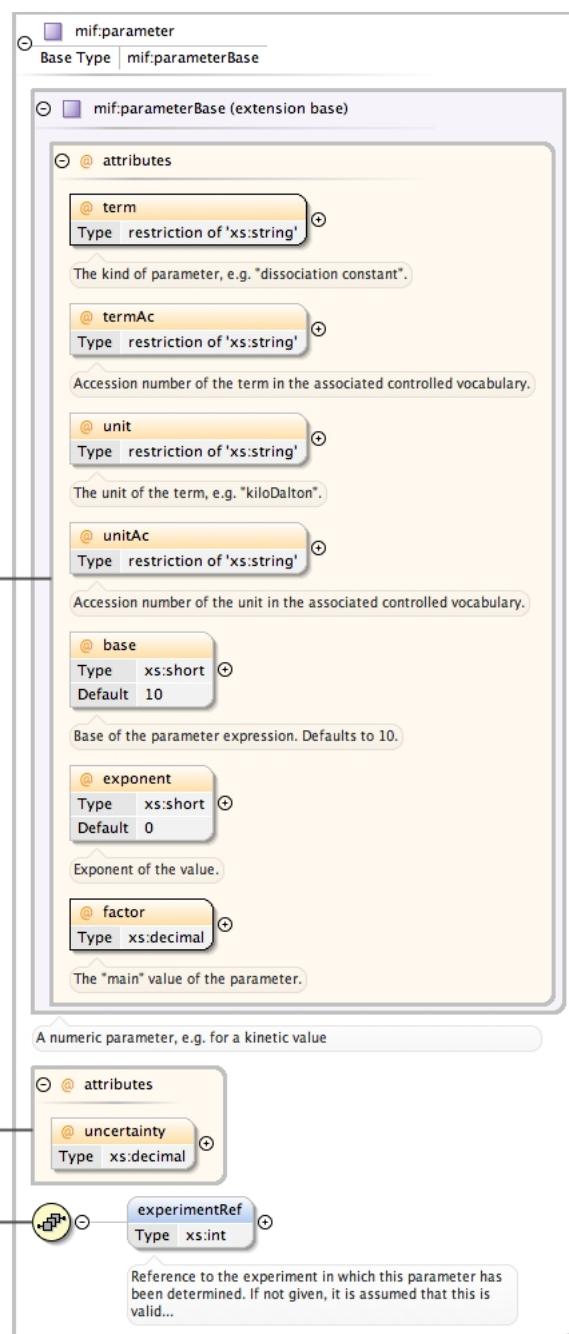
Element mif:feature / mif:parameterList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	List of experimental parameters attached to this feature. For instance, the changes in the kd of the interaction will be added at the feature level with the description of the mutation				
Diagram	<p>The diagram illustrates the relationship between the mif:parameterList and mif:parameter elements. The mif:parameterList class is shown with a multiplicity of 1..infinity associated with the mif:parameter class. Both classes have a Type attribute set to mif:parameterList. A note below the diagram states: "List of experimental parameters attached to this feature. For instance, the changes in the kd of the interaction will be added at the feature level with the description of the mutation". Another note states: "Lists parameters which are relevant for the Interaction, e.g. kinetics."</p>				
Type	mif:parameterList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:parameter+				
Children	mif:parameter				
Instance	<pre><mif:parameterList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:parameter base="10" exponent="0" factor="" term="" termAc="" uncertainty="" unit="" unitAc="">{1,unbounded}</mif:parameter> </mif:parameterList></pre>				
Source	<pre><xs:element name="parameterList" type="mif:parameterList" minOccurs="0"> <xs:annotation> <xs:documentation>List of experimental parameters attached to this feature. For instance, the changes in the kd of the interaction will be added at the feature level with the description of the mutation</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:parameterList / mif:parameter

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	<code>mif:parameter</code>															
Type hierarchy	<ul style="list-style-type: none"> • <code>mif:parameterBase</code> • <code>mif:parameter</code> 															
Properties	content: complex maxOccurs: unbounded															
Model	<code>mif:experimentRef{0,1}</code>															
Children	<code>mif:experimentRef</code>															
Instance	<pre><mif:parameter base="10" exponent="0" factor="" term="" termAc="" uncertainty="" unit="" unitAc="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{0,1}</mif:experimentRef> </mif:parameter></pre>															
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td><code>base</code></td><td><code>xs:short</code></td><td></td><td>10</td><td>optional</td></tr> <tr> <td></td><td></td><td colspan="3">Base of the parameter expression. Defaults to 10.</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>base</code>	<code>xs:short</code>		10	optional			Base of the parameter expression. Defaults to 10.		
QName	Type	Fixed	Default	Use												
<code>base</code>	<code>xs:short</code>		10	optional												
		Base of the parameter expression. Defaults to 10.														

QName	Type	Fixed	Default	Use
exponent	xs:short		0	optional
	Exponent of the value.			
factor	xs:decimal			required
	The "main" value of the parameter.			
term	restriction of xs:string			required
	The kind of parameter, e.g. "dissociation constant".			
termAc	restriction of xs:string			optional
	Accession number of the term in the associated controlled vocabulary.			
uncertainty	xs:decimal			optional
unit	restriction of xs:string			optional
	The unit of the term, e.g. "kiloDalton".			
unitAc	restriction of xs:string			optional
	Accession number of the unit in the associated controlled vocabulary.			
Source	<xs:element name="parameter" type="mif:parameter" maxOccurs="unbounded"/>			

Element mif:parameter / mif:experimentRef

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Reference to the experiment in which this parameter has been determined. If not given, it is assumed that this is valid for all experiments attached to the interaction.						
Diagram	<p>Reference to the experiment in which this parameter has been determined. If not given, it is assumed that this is valid...</p> <p>Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...</p>						
Type	xs:int						
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	1
content:	simple						
minOccurs:	0						
maxOccurs:	1						
Source	<pre><xs:element name="experimentRef" type="xs:int" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Reference to the experiment in which this parameter has been determined. If not given, it is assumed that this is valid for all experiments attached to the interaction.</xs:documentation> </xs:annotation> </xs:element></pre>						

Element mif:feature / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Semi-structured additional description of the data contained in the entry.				
Diagram	<p>Semi-structured additional description of the data contained in the entry.</p> <p>A list of additional attributes. Open tag-value list to allow the inclusion of additional data.</p>				
Type	mif:attributeList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				

Children	mif:attribute
Instance	<mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList>
Source	<xss:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xss:annotation> <xss:documentation>Semi-structured additional description of the data contained in the entry.</xss:documentation> </xss:annotation> </xss:element>

Element mif:participant / mif:participantIdentificationMethodList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>The method(s) by which this participant has been determined. If this element is present, its value supersedes...</p>				
Type	mif:participantIdentificationMethodList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:participantIdentificationMethod+				
Children	mif:participantIdentificationMethod				
Instance	<mif:participantIdentificationMethodList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:participantIdentificationMethod>{1,unbounded}</mif:participantIdentificationMethod> </mif:participantIdentificationMethodList>				
Source	<xss:element name="participantIdentificationMethodList" type="mif:participantIdentificationMethodList" minOccurs="0"/>				

Element mif:participantIdentificationMethodList / mif:participantIdentificationMethod

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>Reference to an external controlled vocabulary.</p> <p>Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.</p> <p>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</p> <p>Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI...</p>				
Type	mif:participantIdentificationMethod				
Type hierarchy	<ul style="list-style-type: none"> • mif:cvType • mif:participantIdentificationMethod 				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	maxOccurs:	unbounded
content:	complex				
maxOccurs:	unbounded				

Model	mif:names , mif:xref , mif:experimentRefList{0,1}
Children	mif:experimentRefList, mif:names, mif:xref
Instance	<mif:participantIdentificationMethod xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> <mif:experimentRefList>{0,1}</mif:experimentRefList> </mif:participantIdentificationMethod>
Source	<x:element name="participantIdentificationMethod" type="mif:participantIdentificationMethod" maxOccurs="unbounded"/>

Element mif:participantIdentificationMethod / mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.				
Diagram	<pre> classDiagram class experimentRefList { <<mif:experimentRefList>> <<Type mif:experimentRefList>> } class experimentRef { <<xs:int>> <<Type xs:int>> } experimentRefList "1..>" experimentRef experimentRefList "1..>" <<References an experiment already present in this entry.>> experimentRefList "1..>" <<Refers to a list of experiments within the same entry.>> </pre> <p>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</p>				
Type	mif:experimentRefList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:experimentRef+				
Children	mif:experimentRef				
Instance	<mif:experimentRefList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{1,unbounded}</mif:experimentRef> </mif:experimentRefList>				
Source	<x:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"> <x:annotation> <x:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</x:documentation> </x:annotation> </x:element>				

Element mif:participant / mif:biologicalRole

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	<p>The role of the participant in the interaction. This describes the biological role, e.g. enzyme or enzyme target.</p> <p>The experimental role of the participant, e.g. 'bait', is shown in experimentalForm. This element is controlled by the PSI-MI controlled vocabulary "biologicalRole", root term id MI:0500.</p>				
Diagram	<pre> classDiagram class cvType { <<mif:cvType>> <<Type mif:cvType>> } class names { <<mif:names>> <<Type mif:names>> } class xref { <<mif:xref>> <<Type mif:xref>> } cvType --> names cvType --> xref names <<Name of the controlled vocabulary term.>> xref <<Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.>> cvType "1..>" <<Reference to an external controlled vocabulary.>> </pre> <p>The role of the participant in the interaction. This describes the biological role, e.g. enzyme or enzyme target. The...</p>				
Type	mif:cvType				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:names , mif:xref				

Children	mif:names, mif:xref
Instance	<mif:biologicalRole xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:biologicalRole>
Source	<x:element name="biologicalRole" type="mif:cvType" minOccurs="0"> <x:annotation> <x:documentation>The role of the participant in the interaction. This describes the biological role, e.g. enzyme or enzyme target. The experimental role of the participant, e.g. 'bait', is shown in experimentalForm. This element is controlled by the PSI-MI controlled vocabulary "biologicalRole", root term id MI:0500.</x:documentation> </x:annotation> </x:element>

Element mif:participant / mif:experimentalRoleList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> classDiagram class experimentalRoleList { <<mif:experimentalRoleList>> <<Type mif:experimentalRoleList>> } class experimentalRole { <<mif:experimentalRole>> <<Type mif:experimentalRole>> } experimentalRoleList "1..>"--> "1..>" experimentalRole </pre> <p>The role(s) of the participant in the interaction, e.g. bait.</p>
Type	mif:experimentalRoleList
Properties	content: complex minOccurs: 0
Model	mif:experimentalRole+
Children	mif:experimentalRole
Instance	<mif:experimentalRoleList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentalRole>{1,unbounded}</mif:experimentalRole> </mif:experimentalRoleList>
Source	<x:element name="experimentalRoleList" type="mif:experimentalRoleList" minOccurs="0" />

Element mif:experimentalRoleList / mif:experimentalRole

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> classDiagram class experimentalRole { <<mif:experimentalRole>> <<Type mif:experimentalRole>> } class experimentalRole { <<mif:experimentalRole>> <<Type mif:experimentalRole>> } experimentalRole --> "1..>" names : mif:names experimentalRole --> "1..>" xref : mif:xref experimentalRole --> "1..>" experimentRefList : mif:experimentRefList </pre> <p>Name of the controlled vocabulary term.</p> <p>Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.</p> <p>Reference to an external controlled vocabulary.</p> <p>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</p> <p>This element is controlled by the PSI-MI controlled vocabulary "experimentalRole", root term id MI:0495.</p>
Type	mif:experimentalRole
Type hierarchy	<ul style="list-style-type: none"> • mif:cvType • mif:experimentalRole
Properties	content: complex

	maxOccurs: unbounded
Model	mif:names , mif:xref , mif:experimentRefList{0,1}
Children	mif:experimentRefList, mif:names, mif:xref
Instance	<mif:experimentalRole xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> <mif:experimentRefList>{0,1}</mif:experimentRefList> </mif:experimentalRole>
Source	<xss:element name="experimentalRole" type="mif:experimentalRole" maxOccurs="unbounded"/>

Element mif:experimentalRole / mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.				
Diagram	<pre> classDiagram class experimentalRefList { <<mif:experimentalRefList>> <<Type mif:experimentalRefList>> } class experimentRef { <<mif:experimentRef>> <<Type xs:int>> } experimentalRefList "1..>" experimentRef experimentRef "1..>" experimentRefList note over experimentRefList: If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction. note over experimentRef: References an experiment already present in this entry. note over experimentRefList: Refers to a list of experiments within the same entry. </pre>				
Type	mif:experimentalRefList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:experimentRef+				
Children	mif:experimentRef				
Instance	<mif:experimentRefList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{1,unbounded}</mif:experimentRef> </mif:experimentRefList>				
Source	<xss:element name="experimentalRefList" type="mif:experimentalRefList" minOccurs="0"> <xss:annotation> <xss:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</xss:documentation> </xss:annotation> </xss:element>				

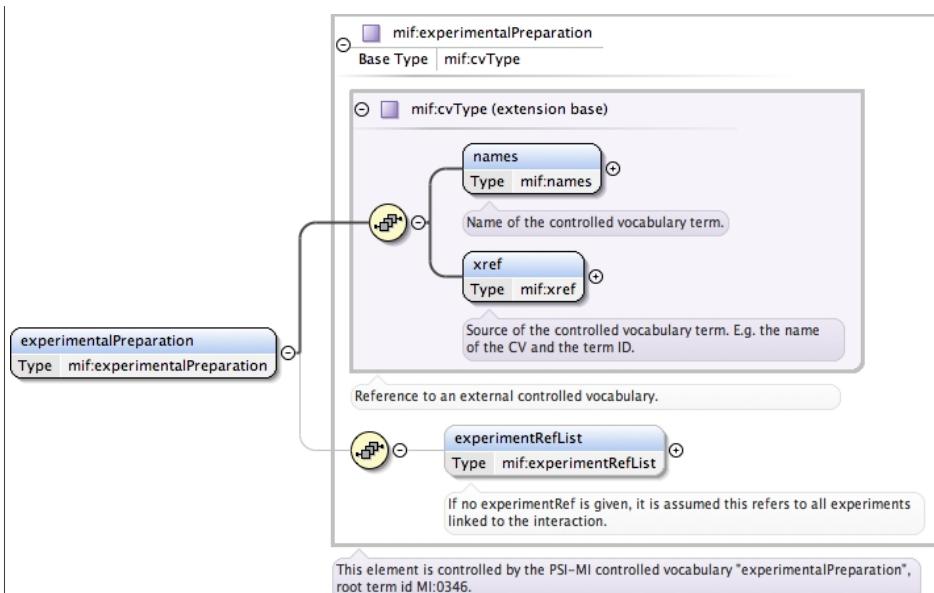
Element mif:participant / mif:experimentalPreparationList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<pre> classDiagram class experimentalPreparationList { <<mif:experimentalPreparationList>> <<Type mif:experimentalPreparationList>> } class experimentalPreparation { <<mif:experimentalPreparation>> <<Type mif:experimentalPreparation>> } experimentalPreparationList "1..>" experimentalPreparation experimentalPreparation "1..>" experimentalPreparationList note over experimentalPreparationList: Terms describing the experimental sample preparation. </pre>				
Type	mif:experimentalPreparationList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:experimentalPreparation+				
Children	mif:experimentalPreparation				
Instance	<mif:experimentalPreparationList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentalPreparation>{1,unbounded}</mif:experimentalPreparation> </mif:experimentalPreparationList>				
Source	<xss:element name="experimentalPreparationList" type="mif:experimentalPreparationList" minOccurs="0"/>				

Element mif:experimentalPreparationList / mif:experimentalPreparation

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	mif:experimentalPreparation
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Type hierarchy	<ul style="list-style-type: none"> • mif:cvType • mif:experimentalPreparation
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Properties	content: complex maxOccurs: unbounded
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Model	mif:names , mif:xref , mif:experimentRefList{0,1}
-------	--

Children	mif:experimentRefList , mif:names , mif:xref
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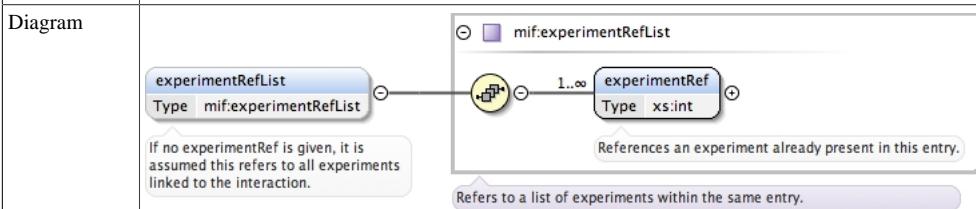
Instance	<pre><mif:experimentalPreparation xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> <mif:experimentRefList>{0,1}</mif:experimentRefList> </mif:experimentalPreparation></pre>
----------	--

Source	<pre><xss:element name="experimentalPreparation" type="mif:experimentalPreparation" maxOccurs="unbounded" /></pre>
--------	--

Element mif:experimentalPreparation / mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300
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Annotations	If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.
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Type	mif:experimentRefList
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Properties	content: complex minOccurs: 0
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Model	mif:experimentRef+
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Children	mif:experimentRef
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Instance	<pre><mif:experimentRefList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{1,unbounded}</mif:experimentRef> </mif:experimentRefList></pre>
----------	--

Source	<pre><xss:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"> <xss:annotation> <xss:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</xss:documentation> </xss:annotation> </xss:element></pre>
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<pre></xs:element></pre>

Element mif:participant / mif:experimentalInteractorList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>The diagram shows a class named 'mif:experimentalInteractorList' with a multiplicity of '1..*'. It has a directed association to another class 'mif:experimentalInteractor' with a multiplicity of '1..*'. A note below the association states: 'Describes molecules which have been used in specific experiments if these molecules are different from the one listed...'.</p>				
Type	mif:experimentalInteractorList				
Properties	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:experimentalInteractor+				
Children	mif:experimentalInteractor				
Instance	<pre><mif:experimentalInteractorList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentalInteractor>{1,unbounded}</mif:experimentalInteractor> </mif:experimentalInteractorList></pre>				
Source	<pre><xs:element name="experimentalInteractorList" type="mif:experimentalInteractorList" minOccurs="0"/></pre>				

Element mif:experimentalInteractorList / mif:experimentalInteractor

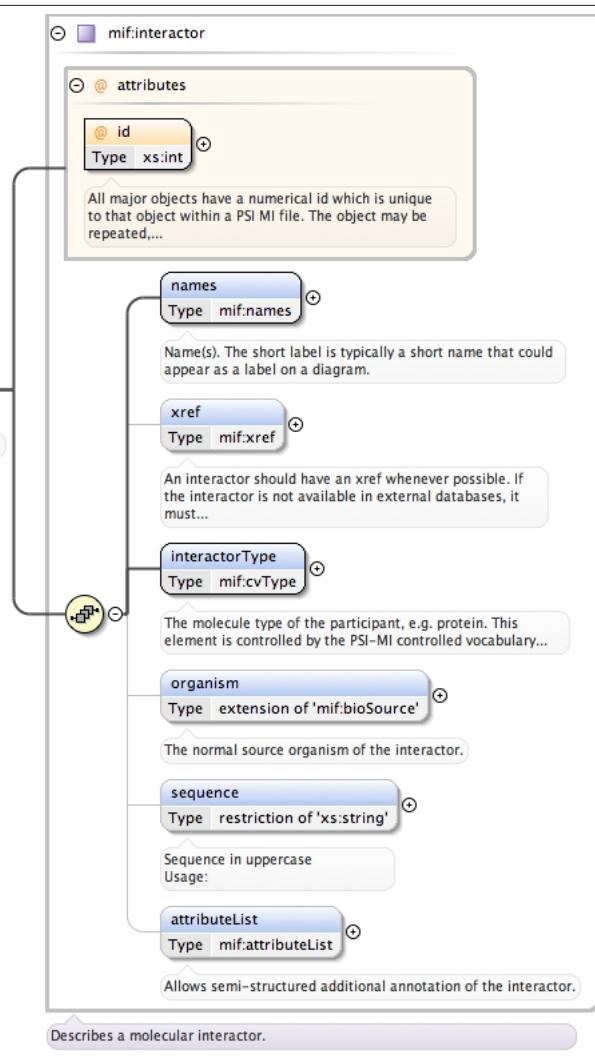
Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>The diagram shows a class named 'mif:experimentalInteractor' with a directed association to three other classes: 'interactorRef' (Type xs:int), 'interactor' (Type mif:interactor), and 'experimentRefList' (Type mif:experimentRefList). A note below the associations states: 'Either refer to an already defined protein interactor in this entry or insert description.' Another note below the 'experimentRefList' association states: 'If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.'</p>				
Type	mif:experimentalInteractor				
Properties	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	maxOccurs:	unbounded
content:	complex				
maxOccurs:	unbounded				
Model	(mif:interactorRef mif:interactor , mif:experimentRefList{0,1})				
Children	mif:experimentRefList, mif:interactor, mif:interactorRef				
Instance	<pre><mif:experimentalInteractor xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:interactorRef>{1,1}</mif:interactorRef> <mif:interactor id="">{1,1}</mif:interactor> <mif:experimentRefList>{0,1}</mif:experimentRefList> </mif:experimentalInteractor></pre>				
Source	<pre><xs:element name="experimentalInteractor" type="mif:experimentalInteractor" maxOccurs="unbounded"/></pre>				

Element mif:experimentalInteractor / mif:interactorRef

Namespace	http://psi.hupo.org/mi/mif300
Annotations	References an interactor described in the interactorList of the entry

Diagram	
Type	xs:int
Properties	content: simple
Source	<pre><xs:element name="interactorRef" type="xs:int"> <xs:annotation> <xs:documentation>References an interactor described in the interactorList of the entry</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:experimentalInteractor / mif:interactor

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Fully describes an interactor
Diagram	
Type	mif:interactor
Properties	content: complex
Model	mif:names , mif:xref{0,1} , mif:interactorType , mif:organism{0,1} , mif:sequence{0,1} , mif:attributeList{0,1}
Children	mif:attributeList, mif:interactorType, mif:names, mif:organism, mif:sequence, mif:xref
Instance	<pre><mif:interactor id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:interactorType>{1,1}</mif:interactorType></pre>

	<pre><mif:organism ncbiTaxId="">{0,1}</mif:organism> <mif:sequence>{0,1}</mif:sequence> <mif:attributeList>{0,1}</mif:attributeList> </mif:interactor></pre>					
Attributes	QName id	Type xs:int	Fixed 	Default 	Use required	
Source	<pre><xs:element name="interactor" type="mif:interactor"> <xs:annotation> <xs:documentation>Fully describes an interactor</xs:documentation> </xs:annotation> </xs:element></pre>					

Element mif:experimentalInteractor / mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.
Diagram	<pre> classDiagram class experimentRefList { <<mif:experimentalInteractor / mif:experimentRefList>> Type mif:experimentalInteractor / mif:experimentRefList } class experimentRef { <<mif:experimentRef>> Type xs:int } experimentRefList "1..*" -- "1..*" experimentRef </pre>
Type	mif:experimentalInteractor / mif:experimentRefList
Properties	content: complex minOccurs: 0
Model	mif:experimentalInteractor+
Children	mif:experimentRef
Instance	<pre><mif:experimentalInteractor xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentRef>{1,unbounded}</mif:experimentRef> </mif:experimentalInteractor></pre>
Source	<pre><xs:element name="experimentalInteractor" type="mif:experimentalInteractor" minOccurs="0"> <xs:annotation> <xs:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:participant / mif:featureList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> classDiagram class featureList { <<mif:participant / mif:featureList>> Type mif:participant / mif:featureList } class feature { <<mif:feature>> Type mif:feature } featureList "1..*" -- "1..*" feature </pre>
Type	mif:participant / mif:featureList
Properties	content: complex minOccurs: 0
Model	mif:participant+
Children	mif:feature
Instance	<pre><mif:featureList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:feature id="">{1,unbounded}</mif:feature> </mif:featureList></pre>
Source	<pre><xs:element name="featureList" type="mif:featureList" minOccurs="0"/></pre>

Element mif:participant / mif:hostOrganismList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> classDiagram class hostOrganismList { <<mif:hostOrganismList>> } class hostOrganism { <<mif:hostOrganism>> } hostOrganismList "1..>" hostOrganism hostOrganismList --> hostOrganism hostOrganismList <<The host organism(s) in which the experiment has been performed.>> </pre>
Type	mif:hostOrganismList
Properties	content: complex minOccurs: 0
Model	mif:hostOrganism+
Children	mif:hostOrganism
Instance	<pre> <mif:hostOrganismList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:hostOrganism ncbiTaxId="">{1,unbounded}</mif:hostOrganism> </mif:hostOrganismList> </pre>
Source	<pre> <xss:element name="hostOrganismList" type="mif:hostOrganismList" minOccurs="0"/> </pre>

Element mif:participant / mif:confidenceList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Confidence in participant detection.
Diagram	<pre> classDiagram class confidenceList { <<mif:confidenceList>> } class confidence { <<mif:confidence>> } confidenceList "1..>" confidence confidenceList --> confidence confidenceList <<Confidence in participant detection.>> confidence <<A list of confidence values.>> </pre>
Type	mif:confidenceList
Properties	content: complex minOccurs: 0
Model	mif:confidence+
Children	mif:confidence
Instance	<pre> <mif:confidenceList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:confidence>{1,unbounded}</mif:confidence> </mif:confidenceList> </pre>
Source	<pre> <xss:element name="confidenceList" type="mif:confidenceList" minOccurs="0"> <xss:annotation> <xss:documentation>Confidence in participant detection.</xss:documentation> </xss:annotation> </xss:element> </pre>

Element mif:participant / mif:parameterList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> classDiagram class parameterList { <<mif:parameterList>> } class parameter { <<mif:parameter>> } parameterList "1..>" parameter parameterList --> parameter parameterList <<Lists parameters which are relevant for the interaction, e.g. kinetics.>> </pre>
Type	mif:parameterList
Properties	content: complex minOccurs: 0
Model	mif:parameter+

Children	mif:parameter
Instance	<mif:parameterList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:parameter base="10" exponent="0" factor="" term="" termAc="" uncertainty="" unit="" unitAc="" /> </mif:parameterList>
Source	<xss:element name="parameterList" type="mif:parameterList" minOccurs="0"/>

Element mif:participant / mif:stoichiometry

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	The stoichiometry of the participant.				
Diagram	<pre> classDiagram class stoichiometry { @ value } stoichiometry < -- mif:stoichiometryType mif:stoichiometryType { @ attributes @ value } @ value { Type xs:int "The participant stoichiometry value" } "The mean value for the participant stoichiometry." </pre>				
Type	mif:stoichiometryType				
Properties	content: complex				
Attributes	QName	Type	Fixed	Default	Use
	value	xs:int			required
		The participant stoichiometry value			
Source	<xss:element name="stoichiometry" type="mif:stoichiometryType"> <xss:annotation> <xss:documentation>The stoichiometry of the participant.</xss:documentation> </xss:annotation> </xss:element>				

Element mif:participant / mif:stoichiometryRange

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	The stoichiometry range of the participant.				
Diagram	<pre> classDiagram class stoichiometryRange { @ minValue @ maxValue } stoichiometryRange < -- mif:stoichiometryRangeType mif:stoichiometryRangeType { @ attributes @ minValue @ maxValue } @ minValue { Type xs:int "The minimum stoichiometry value" } @ maxValue { Type xs:int "The maximum stoichiometry value" } "The stoichiometry range of a participant." </pre>				
Type	mif:stoichiometryRangeType				
Properties	content: complex				
Attributes	QName	Type	Fixed	Default	Use
	maxValue	xs:int			required
		The maximum stoichiometry value			
	minValue	xs:int			required
		The minimum stoichiometry value			
Source	<xss:element name="stoichiometryRange" type="mif:stoichiometryRangeType"> <xss:annotation> <xss:documentation>The stoichiometry range of the participant.</xss:documentation> </xss:annotation> </xss:element>				

```
</xs:annotation>
</xs:element>
```

Element mif:participant / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Semi-structured additional description of the data contained in the entry.				
Diagram	<p>A list of additional attributes. Open tag-value list to allow the inclusion of additional data.</p>				
Type	mif:attributeList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				
Children	mif:attribute				
Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList></pre>				
Source	<pre><xss:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xss:annotation> <xss:documentation>Semi-structured additional description of the data contained in the entry.</xss:documentation> </xss:annotation> </xss:element></pre>				

Element mif:interaction / mif:inferredInteractionList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>Describes inferred interactions, usually combining data from more than one experiment. Examples: 1: Show the topology...</p>				
Type	mif:inferredInteractionList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:inferredInteraction+				
Children	mif:inferredInteraction				
Instance	<pre><mif:inferredInteractionList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:inferredInteraction>{1,unbounded}</mif:inferredInteraction> </mif:inferredInteractionList></pre>				
Source	<pre><xss:element name="inferredInteractionList" type="mif:inferredInteractionList" minOccurs="0"/></pre>				

Element mif:inferredInteractionList / mif:inferredInteraction

Namespace	http://psi.hupo.org/mi/mif300
Diagram	

Type	mif:inferredInteraction
Properties	content: complex maxOccurs: unbounded
Model	mif:participant{2,unbounded} , mif:experimentRefList{0,1}
Children	mif:experimentRefList, mif:participant
Instance	<pre><mif:inferredInteraction xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:participant>{2,unbounded}</mif:participant> <mif:experimentRefList>{0,1}</mif:experimentRefList> </mif:inferredInteraction></pre>
Source	<pre><xss:element name="inferredInteraction" type="mif:inferredInteraction" maxOccurs="unbounded" /></pre>

Element mif:inferredInteraction / mif:participant

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram shows a class named 'mif:inferredInteractionParticipant'. It has two associations: one labeled 'participantRef' with type 'xs:int' and another labeled 'participantFeatureRef' with type 'xs:int'. A note below the class states 'Participant of the inferred interaction.'</p>
Type	mif:inferredInteractionParticipant
Properties	content: complex minOccurs: 2 maxOccurs: unbounded
Model	mif:participantRef mif:participantFeatureRef
Children	mif:participantFeatureRef, mif:participantRef
Instance	<pre><mif:participant xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:participantRef>{1,1}</mif:participantRef> <mif:participantFeatureRef>{1,1}</mif:participantFeatureRef> </mif:participant></pre>
Source	<pre><xss:element name="participant" type="mif:inferredInteractionParticipant" minOccurs="2" maxOccurs="unbounded" /></pre>

Element mif:inferredInteractionParticipant / mif:participantRef

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram shows a class named 'mif:inferredInteractionParticipant'. It has an association labeled 'participantRef' with type 'xs:int'. A note below the association states 'Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...'. This indicates that the xs:int type is a derived type from long.</p>
Type	xs:int
Properties	content: simple
Source	<pre><xss:element name="participantRef" type="xs:int" /></pre>

Element mif:inferredInteractionParticipant / mif:participantFeatureRef

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram shows a class named 'mif:inferredInteractionParticipant'. It has an association labeled 'participantFeatureRef' with type 'xs:int'. A note below the association states 'Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...'. This indicates that the xs:int type is a derived type from long.</p>
Type	xs:int
Properties	content: simple

Source	<code><xss:element name="participantFeatureRef" type="xs:int"/></code>
--------	--

Element mif:inferredInteraction / mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<pre> classDiagram class experimentRefList { <<Type mif:experimentRefList>> } class experimentRef { <<Type xs:int>> } experimentRefList "1..>" experimentRef experimentRef <<References an experiment already present in this entry.>> experimentRefList <<Refers to a list of experiments within the same entry.>> </pre>				
Type	mif:experimentRefList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:experimentRef+				
Children	mif:experimentRef				
Instance	<code><mif:experimentRefList xmlns:mif="http://psi.hupo.org/mi/mif300"></code> <code> <mif:experimentRef>{1,unbounded}</mif:experimentRef></code> <code></mif:experimentRefList></code>				
Source	<code><xss:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"/></code>				

Element mif:interaction / mif:interactionType

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	External controlled vocabulary characterising the interaction type, for example "physical interaction".						
Diagram	<pre> classDiagram class interactionType { <<Type mif:cvType>> } class cvType { <<Type mif:cvType>> } interactionType --> cvType cvType "1..>" names cvType "1..>" xref names <<Name of the controlled vocabulary term.>> xref <<Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.>> interactionType <<External controlled vocabulary characterising the interaction type, for example "physical interaction".>> cvType <<Reference to an external controlled vocabulary.>> </pre>						
Type	mif:cvType						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	unbounded
content:	complex						
minOccurs:	0						
maxOccurs:	unbounded						
Model	mif:names , mif:xref						
Children	mif:names, mif:xref						
Instance	<code><mif:interactionType xmlns:mif="http://psi.hupo.org/mi/mif300"></code> <code> <mif:names>{1,1}</mif:names></code> <code> <mif:xref>{1,1}</mif:xref></code> <code></mif:interactionType></code>						
Source	<code><xss:element name="interactionType" type="mif:cvType" minOccurs="0" maxOccurs="unbounded"></code> <code> <xss:annotation></code> <code> <xss:documentation>External controlled vocabulary characterising the interaction type, for example "physical interaction".</xss:documentation></code> <code> </xss:annotation></code> <code></xss:element></code>						

Element mif:interaction / mif:modelled

Namespace	http://psi.hupo.org/mi/mif300
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Annotations	If true, this element describes an interaction in a species of interest, e.g. human, but has actually been investigated in another organism, e.g. mouse. The transfer will usually be based on a homology statement made by the data producer. If this optional element is missing, it is assumed to be set to false.				
Diagram	<p>If true, this element describes an interaction in a species of interest, e.g. human, but has actually been investigated...</p>				
Type	xs:boolean				
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	simple	minOccurs:	0
content:	simple				
minOccurs:	0				
Source	<pre><xs:element name="modelled" type="xs:boolean" minOccurs="0"> <xs:annotation> <xs:documentation>If true, this element describes an interaction in a species of interest, e.g. human, but has actually been investigated in another organism, e.g. mouse. The transfer will usually be based on a homology statement made by the data producer. If this optional element is missing, it is assumed to be set to false.</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:interaction / mif:intraMolecular

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	If true, this interaction is an intramolecular interaction, e.g. an autophosphorylation. If missing, this element is assumed to be false.						
Diagram	<p>If true, this interaction is an intramolecular interaction, e.g. an autophosphorylation. If missing, this element is...</p>						
Type	xs:boolean						
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>default:</td> <td>false</td> </tr> </table>	content:	simple	minOccurs:	0	default:	false
content:	simple						
minOccurs:	0						
default:	false						
Source	<pre><xs:element name="intraMolecular" type="xs:boolean" default="false" minOccurs="0"> <xs:annotation> <xs:documentation>If true, this interaction is an intramolecular interaction, e.g. an autophosphorylation. If missing, this element is assumed to be false.</xs:documentation> </xs:annotation> </xs:element></pre>						

Element mif:interaction / mif:negative

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	If true, this interaction has been shown NOT to occur under the described experimental conditions. Default false. If this optional element is missing, it is assumed to be set to false.				
Diagram	<p>If true, this interaction has been shown NOT to occur under the described experimental conditions. Default false. If...</p>				
Type	xs:boolean				
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	simple	minOccurs:	0
content:	simple				
minOccurs:	0				

	default: false
Source	<pre><xss:element name="negative" type="xs:boolean" default="false" minOccurs="0"> <xss:annotation> <xss:documentation>If true, this interaction has been shown NOT to occur under the described experimental conditions. Default false. If this optional element is missing, it is assumed to be set to false.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:interaction / mif:confidenceList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>The diagram shows the UML class 'mif:confidenceList' with a self-referencing association named 'confidenceList'. The multiplicity at the source end is '1..infinity' and at the target end is '0..1'. A note below the association states: 'A list of confidence values.'</p>				
Type	mif:confidenceList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:confidence+				
Children	mif:confidence				
Instance	<pre><mif:confidenceList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:confidence>{1,unbounded}</mif:confidence> </mif:confidenceList></pre>				
Source	<pre><xss:element name="confidenceList" type="mif:confidenceList" minOccurs="0"/></pre>				

Element mif:interaction / mif:parameterList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>The diagram shows the UML class 'mif:parameterList' with a self-referencing association named 'parameterList'. The multiplicity at the source end is '1..infinity' and at the target end is '0..1'. A note below the association states: 'Lists parameters which are relevant for the Interaction, e.g. kinetics.'</p>				
Type	mif:parameterList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:parameter+				
Children	mif:parameter				
Instance	<pre><mif:parameterList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:parameter base="10" exponent="0" factor="" term="" termAc="" uncertainty="" unit="" unitAc="">{1,unbounded}</mif:parameter> </mif:parameterList></pre>				
Source	<pre><xss:element name="parameterList" type="mif:parameterList" minOccurs="0"/></pre>				

Element mif:interaction / mif:experimentalVariableValueList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A list of variable/dynamic parameters used in this experiment to investigate dynamic interactions.
Diagram	<p>The diagram shows the UML class 'mif:experimentalVariableValueList' with a self-referencing association named 'experimentalVariableValueList'. The multiplicity at the source end is '1..infinity' and at the target end is '0..1'. Two notes below the association state: 'A list of variable/dynamic parameters used in this experiment to investigate dynamic interactions.' and 'A set of experimental parameter/conditions values applied together and for which this interaction occurs.' A third note at the bottom states: 'A list of experimental parameter/condition values for which the interaction occurs.'</p>

Type	mif:experimentalVariableValueList
Properties	<p>content: complex</p> <p>minOccurs: 0</p>
Model	mif:experimentalVariableValues+
Children	mif:experimentalVariableValues
Instance	<pre><mif:experimentalVariableValueList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:experimentalVariableValues>{1,unbounded}</mif:experimentalVariableValues> </mif:experimentalVariableValueList></pre>
Source	<pre><xss:element name="experimentalVariableValueList" type="mif:experimentalVariableValueList" minOccurs="0"> <xss:annotation> <xss:documentation>A list of variable/dynamic parameters used in this experiment to investigate dynamic interactions.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:experimentalVariableValueList / mif:experimentalVariableValues

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A set of experimental parameter/conditions values applied together and for which this interaction occurs.
Diagram	<pre> classDiagram class experimentalVariableValues { <<mif:experimentalVariableValues>> Type mif:experimentalVariableValues } class variableValueRef { <<mif:variableValueRef>> Type xs:int } experimentalVariableValues "1..>" -- "1..>" variableValueRef </pre> <p>A set of experimental parameter/conditions values applied together and for which this interaction occurs.</p> <p>The reference to the id of the variableValue described in the...</p> <p>A set of experimental parameter/conditions values applied together and for which this interaction occurs.</p>
Type	mif:experimentalVariableValues
Properties	<p>content: complex</p> <p>minOccurs: 1</p> <p>maxOccurs: unbounded</p>
Model	mif:variableValueRef+
Children	mif:variableValueRef
Instance	<pre><mif:experimentalVariableValues xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:variableValueRef>{1,unbounded}</mif:variableValueRef> </mif:experimentalVariableValues></pre>
Source	<pre><xss:element name="experimentalVariableValues" minOccurs="1" maxOccurs="unbounded" type="mif:experimentalVariableValues"> <xss:annotation> <xss:documentation>A set of experimental parameter/conditions values applied together and for which this interaction occurs.</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:experimentalVariableValues / mif:variableValueRef

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The reference to the id of the variableValue described in the variableParameterList/variableParameter/variableParameterValueList of the experiment.
Diagram	<pre> classDiagram class variableValueRef { <<mif:variableValueRef>> Type xs:int } xs:int variableValueRef "0..>" -- "1..>" xs:int </pre> <p>The reference to the id of the variableValue described in the...</p> <p>Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...</p>
Type	xs:int
Properties	<p>content: simple</p> <p>minOccurs: 1</p>

	maxOccurs: unbounded
Source	<pre><xs:element name="variableValueRef" minOccurs="1" maxOccurs="unbounded" type="xs:int"> <xs:annotation> <xs:documentation>The reference to the id of the variableValue described in the variableParameterList/variableParameter/variableParameterValueList of the experiment.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:interaction / mif:causalRelationshipList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	A list of causal relationships involving participants in this interaction				
Diagram	<pre> classDiagram class causalRelationshipList { <<A list of causal relationships involving participants in this interaction>> } class causalRelationship { <<The causal relationship between a participant source and a participant target.>> } causalRelationshipList "1..>" causalRelationship </pre>				
Type	mif:causalRelationshipList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:causalRelationship+				
Children	mif:causalRelationship				
Instance	<pre><mif:causalRelationshipList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:causalRelationship>{1,unbounded}</mif:causalRelationship> </mif:causalRelationshipList></pre>				
Source	<pre><xs:element name="causalRelationshipList" type="mif:causalRelationshipList" minOccurs="0"> <xs:annotation> <xs:documentation>A list of causal relationships involving participants in this interaction</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:causalRelationshipList / mif:causalRelationship

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	The causal relationship between a participant source and a participant target.						
Diagram	<pre> classDiagram class causalRelationship { <<The causal relationship between a participant source and a participant target.>> <<The causal relationship between a participant source and a participant target.>> <<The causal relationship between a participant source and a participant target.>> } class sourceParticipantRef { <<Refers to the participant that is the source of the causality statement.>> } class causalityStatement { <<The causality statement. Allows to reference an external controlled vocabulary, or to directly include a value if no...>> } class targetParticipantRef { <<Refers to the participant that is the target of the causality statement.>> } causalRelationship "1..>" sourceParticipantRef causalRelationship "1..>" causalityStatement causalRelationship "1..>" targetParticipantRef </pre>						
Type	mif:causalRelationship						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	minOccurs:	1	maxOccurs:	unbounded
content:	complex						
minOccurs:	1						
maxOccurs:	unbounded						

Model	mif:sourceParticipantRef , mif:causalityStatement , mif:targetParticipantRef
Children	mif:causalityStatement, mif:sourceParticipantRef, mif:targetParticipantRef
Instance	<mif:causalRelationship xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:sourceParticipantRef>{1,1}</mif:sourceParticipantRef> <mif:causalityStatement>{1,1}</mif:causalityStatement> <mif:targetParticipantRef>{1,1}</mif:targetParticipantRef> </mif:causalRelationship>
Source	<xs:element name="causalRelationship" type="mif:causalRelationship" minOccurs="1" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>The causal relationship between a participant source and a participant target.</xs:documentation> </xs:annotation> </xs:element>

Element mif:causalRelationship / mif:sourceParticipantRef

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Refers to the participant that is the source of the causality statement.						
Diagram	<pre> classDiagram class sourceParticipantRef { Type xs:int } class xs:int sourceParticipantRef "0..1" -- "1" xs:int </pre>						
Type	xs:int						
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	simple	minOccurs:	1	maxOccurs:	1
content:	simple						
minOccurs:	1						
maxOccurs:	1						
Source	<xs:element name="sourceParticipantRef" type="xs:int" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>Refers to the participant that is the source of the causality statement.</xs:documentation> </xs:annotation> </xs:element>						

Element mif:causalRelationship / mif:causalityStatement

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	The causality statement. Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external definition is available.						
Diagram	<pre> classDiagram class causalityStatement { Type mif:openCvType } class mif:openCvType { attribute names : mif:names attribute xref : mif:xref attribute attributeList : mif:attributeList } causalityStatement "0..1" -- "1" mif:openCvType </pre>						
Type	mif:openCvType						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	complex	minOccurs:	1	maxOccurs:	1
content:	complex						
minOccurs:	1						
maxOccurs:	1						

Model	mif:names , mif:xref{0,1} , mif:attributeList{0,1}
Children	mif:attributeList, mif:names, mif:xref
Instance	<mif:causalityStatement xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> </mif:causalityStatement>
Source	<xs:element name="causalityStatement" type="mif:openCvType" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>The causality statement. Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external definition is available.</xs:documentation> </xs:annotation> </xs:element>

Element mif:causalRelationship / mif:targetParticipantRef

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Refers to the participant that is the target of the causality statement.						
Diagram							
Type	xs:int						
Properties	<table> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	simple	minOccurs:	1	maxOccurs:	1
content:	simple						
minOccurs:	1						
maxOccurs:	1						
Source	<xs:element name="targetParticipantRef" type="xs:int" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>Refers to the participant that is the target of the causality statement.</xs:documentation> </xs:annotation> </xs:element>						

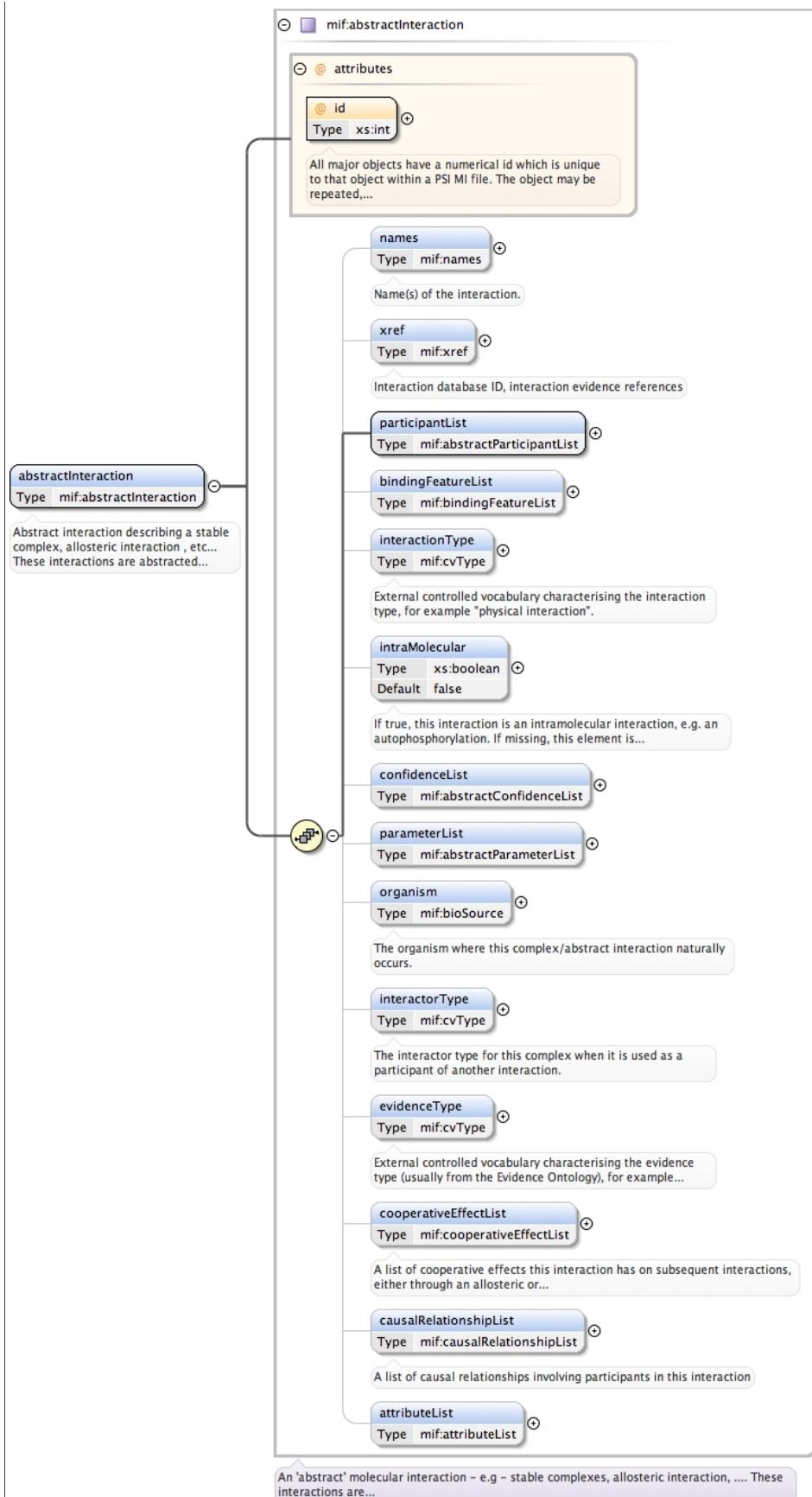
Element mif:interaction / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram					
Type	mif:attributeList				
Properties	<table> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				
Children	mif:attribute				
Instance	<mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList>				
Source	<xs:element name="attributeList" type="mif:attributeList" minOccurs="0"/>				

Element mif:interactionList / mif:abstractInteraction

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Abstract interaction describing a stable complex, allosteric interaction , etc... These interactions are abstracted from the experimental context and used to describe biological entities

Diagram



Type	<code>mif:abstractInteraction</code>
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Properties	content: complex
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Model	mif:names{0,1} , mif:xref{0,1} , mif:participantList , mif:bindingFeatureList{0,1} , mif:interactionType{0,1} , mif:intraMolecular{0,1} , mif:confidenceList{0,1} , mif:parameterList{0,1} , mif:organism{0,1} , mif:interactorType{0,1} , mif:evidenceType{0,1} , mif:cooperativeEffectList{0,1} , mif:causalRelationshipList{0,1} , mif:attributeList{0,1}															
Children	mif:attributeList, mif:bindingFeatureList, mif:causalRelationshipList, mif:confidenceList, mif:cooperativeEffectList, mif:evidenceType, mif:interactionType, mif:interactorType, mif:intraMolecular, mif:names, mif:organism, mif:parameterList, mif:participantList, mif:xref															
Instance	<mif:abstractInteraction id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:participantList>{1,1}</mif:participantList> <mif:bindingFeatureList>{0,1}</mif:bindingFeatureList> <mif:interactionType>{0,1}</mif:interactionType> <mif:intraMolecular>{0,1}</mif:intraMolecular> <mif:confidenceList>{0,1}</mif:confidenceList> <mif:parameterList>{0,1}</mif:parameterList> <mif:organism ncbiTaxId="">{0,1}</mif:organism> <mif:interactorType>{0,1}</mif:interactorType> <mif:evidenceType>{0,1}</mif:evidenceType> <mif:cooperativeEffectList>{0,1}</mif:cooperativeEffectList> <mif:causalRelationshipList>{0,1}</mif:causalRelationshipList> <mif:attributeList>{0,1}</mif:attributeList> </mif:abstractInteraction>															
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td>All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required		All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.			
QName	Type	Fixed	Default	Use												
id	xs:int			required												
	All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.															
Source	<pre><xss:element name="abstractInteraction" type="mif:abstractInteraction"> <xss:annotation> <xss:documentation>Abstract interaction describing a stable complex, allosteric interaction , etc... These interactions are abstracted from the experimental context and used to describe biological entities</xss:documentation> </xss:annotation> </xss:element></pre>															

Element mif:abstractInteraction / mif:names

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Name(s) of the interaction.				
Diagram	<p>Diagram illustrating the UML class 'names' with its attributes:</p> <ul style="list-style-type: none"> shortLabel: Type restriction of 'xs:string' fullName: Type restriction of 'xs:string' alias: Type mif:alias <p>A note below the class states: "Names for an object."</p>				
Type	mif:names				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*				
Children	mif:alias, mif:fullName, mif:shortLabel				
Instance	<mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="unbounded">{0,unbounded}</mif:alias> </mif:names>				
Source	<pre><xss:element name="names" type="mif:names" minOccurs="0"> <xss:annotation></pre>				

```

<xs:documentation>Name(s) of the interaction.</xs:documentation>
</xs:annotation>
</xs:element>

```

Element mif:abstractInteraction / mif:xref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Interaction database ID, interaction evidence references				
Diagram	<pre> classDiagram class mif{xref} { <<Interaction database ID, interaction evidence references>> } class mif{primaryRef} { <<Primary reference to an external database.>> } class mif{secondaryRef} { <<Further external objects describing the object.>> } mif{xref} "0..1" --> mif{primaryRef} mif{xref} "0..infinity" --> mif{secondaryRef} </pre>				
Type	mif:xref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:primaryRef , mif:secondaryRef*				
Children	mif:primaryRef, mif:secondaryRef				
Instance	<pre> <mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</ mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</ mif:secondaryRef> </mif:xref> </pre>				
Source	<pre> <xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>Interaction database ID, interaction evidence references</xs:documentation> </xs:annotation> </xs:element> </pre>				

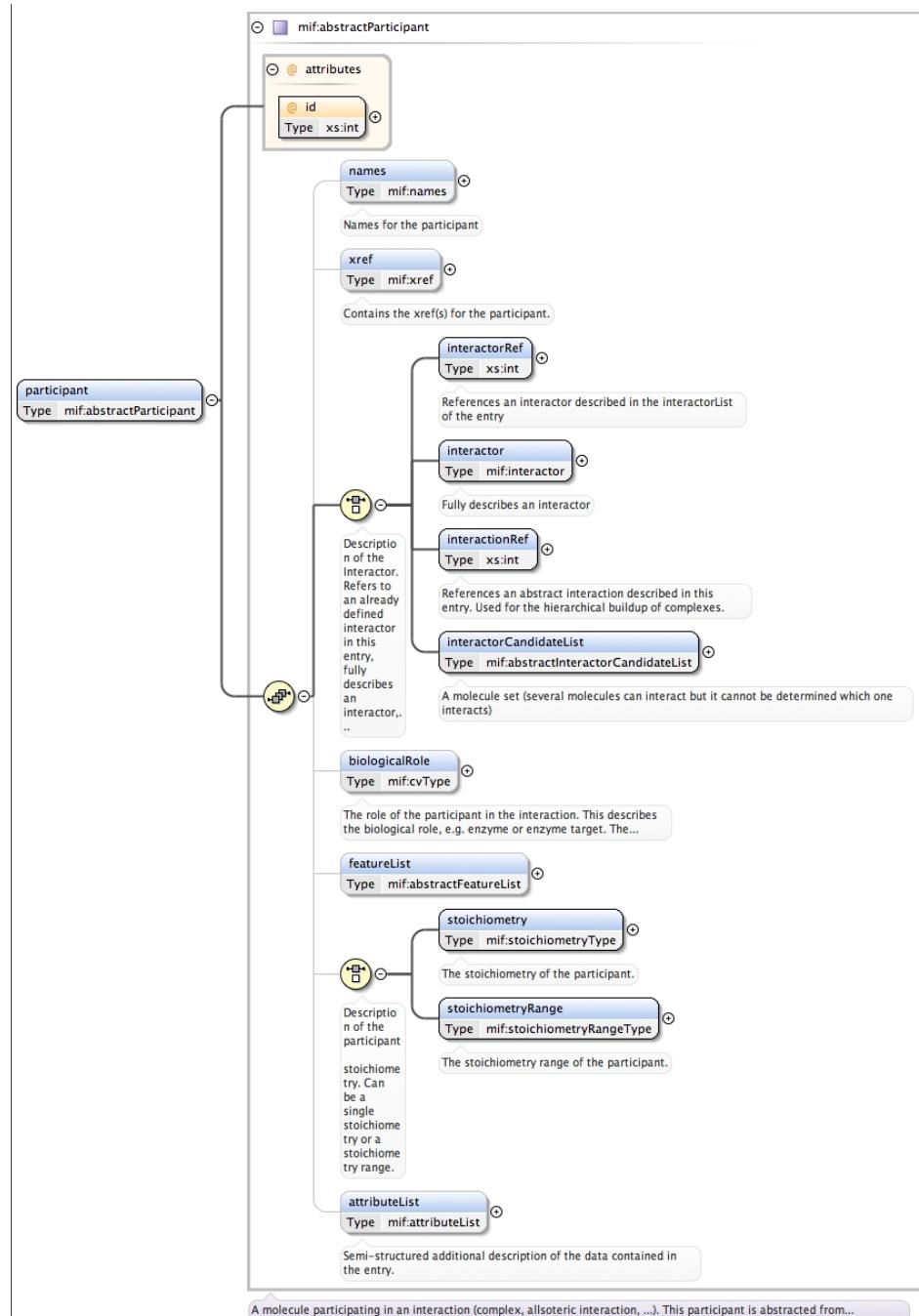
Element mif:abstractInteraction / mif:participantList

Namespace	http://psi.hupo.org/mi/mif300		
Diagram	<pre> classDiagram class mif{abstractParticipantList} { <<A list of molecules participating in an abstract interaction. A complex has one (homo-dimers), two (binary), or more...>> } class mif{participant} { <<Type mif:abstractParticipant>> } mif{abstractParticipantList} "1..infinity" --> mif{participant} </pre>		
Type	mif:abstractParticipantList		
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> </table>	content:	complex
content:	complex		
Model	mif:participant+		
Children	mif:participant		
Instance	<pre> <mif:participantList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:participant id="">{1,unbounded}</mif:participant> </mif:participantList> </pre>		
Source	<pre> <xs:element name="participantList" type="mif:abstractParticipantList"/> </pre>		

Element mif:abstractParticipantList / mif:participant

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	<code>mif:abstractParticipant</code>				
Properties	<table border="1"> <tr> <td>content:</td><td>complex</td></tr> <tr> <td>maxOccurs:</td><td>unbounded</td></tr> </table>	content:	complex	maxOccurs:	unbounded
content:	complex				
maxOccurs:	unbounded				
Model	<code>mif:names{0,1}</code> , <code>mif:xref{0,1}</code> , (<code>mif:interactorRef</code> <code>mif:interactor</code> <code>mif:interactionRef</code> <code>mif:interactorCandidateList</code>), <code>mif:biologicalRole{0,1}</code> , <code>mif:featureList{0,1}</code> , (<code>mif:stoichiometry</code> <code>mif:stoichiometryRange</code>), <code>mif:attributeList{0,1}</code>				
Children	<code>mif:attributeList</code> , <code>mif:biologicalRole</code> , <code>mif:featureList</code> , <code>mif:interactionRef</code> , <code>mif:interactor</code> , <code>mif:interactorCandidateList</code> , <code>mif:interactorRef</code> , <code>mif:names</code> , <code>mif:stoichiometry</code> , <code>mif:stoichiometryRange</code> , <code>mif:xref</code>				
Instance	<pre> <mif:participant id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:interactorRef>{1,1}</mif:interactorRef> <mif:interactor id="">{1,1}</mif:interactor> <mif:interactionRef>{1,1}</mif:interactionRef> <mif:interactorCandidateList>{1,1}</mif:interactorCandidateList> <mif:biologicalRole>{0,1}</mif:biologicalRole> <mif:featureList>{0,1}</mif:featureList> <mif:stoichiometry value="">{1,1}</mif:stoichiometry> </pre>				

	<mif:stoichiometryRange maxValue="" minValue="">{1,1}</mif:stoichiometryRange> <mif:attributeList>{0,1}</mif:attributeList> </mif:participant>					
Attributes	QName	Type	Fixed	Default	Use	
	id	xs:int				required
Source	<xss:element name="participant" type="mif:abstractParticipant" maxOccurs="unbounded" />					

Element mif:abstractParticipant / mif:names

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Names for the participant				
Diagram	<pre> classDiagram class mif.names { shortLabel : restriction of xs:string fullName : restriction of xs:string alias : mif.alias * (0..∞) } note over mif.names: Names for an object. </pre>				
Type	mif:names				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*				
Children	mif:alias, mif:fullName, mif:shortLabel				
Instance	<mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names>				
Source	<xss:element name="names" type="mif:names" minOccurs="0"> <xss:annotation> <xss:documentation>Names for the participant</xss:documentation> </xss:annotation> </xss:element>				

Element mif:abstractParticipant / mif:xref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Contains the xref(s) for the participant.				
Diagram	<pre> classDiagram class mif.xref { primaryRef : mif.dbReference secondaryRef : mif.dbReference * (0..∞) } note over mif.xref: Contains the xref(s) for the participant. note over mif.xref: Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into... </pre>				
Type	mif:xref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				

Model	mif:primaryRef , mif:secondaryRef*
Children	mif:primaryRef, mif:secondaryRef
Instance	<pre><mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</ mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</ mif:secondaryRef> </mif:xref></pre>
Source	<pre><xss:element name="xref" type="mif:xref" minOccurs="0"> <xss:annotation> <xss:documentation>Contains the xref(s) for the participant.</xss:documentation> </xss:annotation> </xss:element></pre>

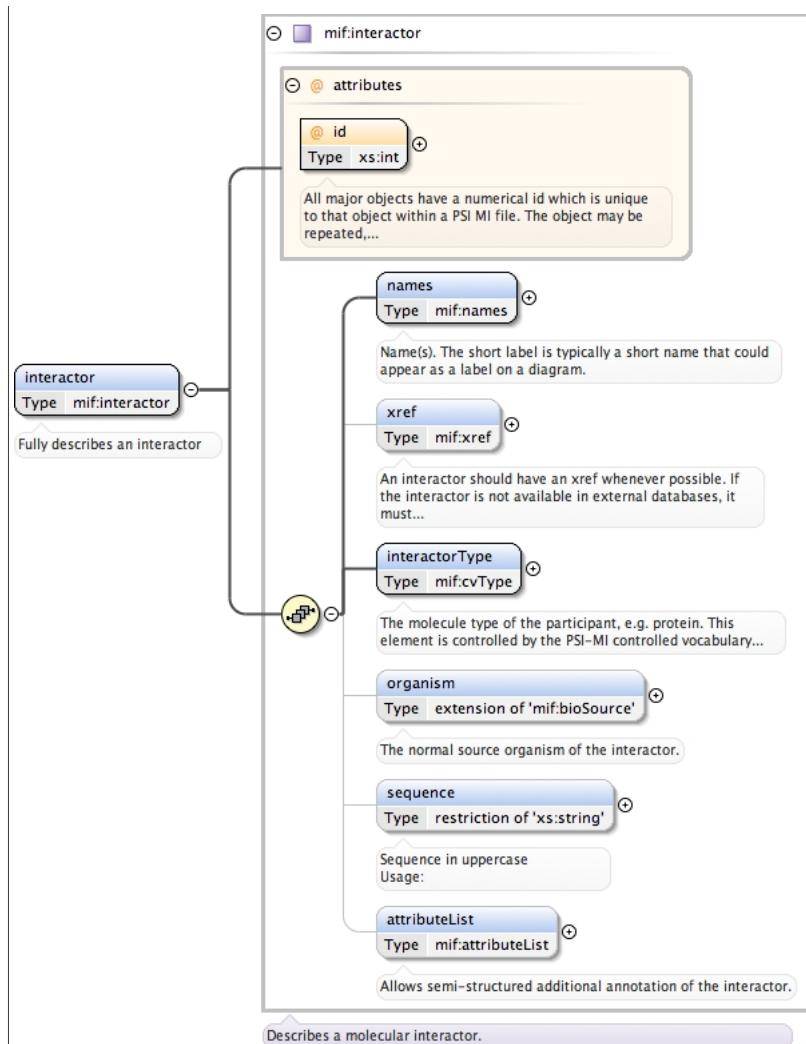
Element mif:abstractParticipant / mif:interactorRef

Namespace	http://psi.hupo.org/mi/mif300
Annotations	References an interactor described in the interactorList of the entry
Diagram	<p>Diagram illustrating the relationship between the element and its type:</p> <pre> graph LR interactorRef[interactorRef] --> xsint[xs:int] </pre> <p>References an interactor described in the interactorList of the entry</p> <p>Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...</p>
Type	xs:int
Properties	content: simple
Source	<pre><xss:element name="interactorRef" type="xs:int"> <xss:annotation> <xss:documentation>References an interactor described in the interactorList of the entry</xss:documentation> </xss:annotation> </xss:element></pre>

Element mif:abstractParticipant / mif:interactor

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Fully describes an interactor

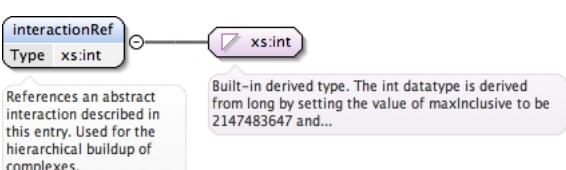
Diagram



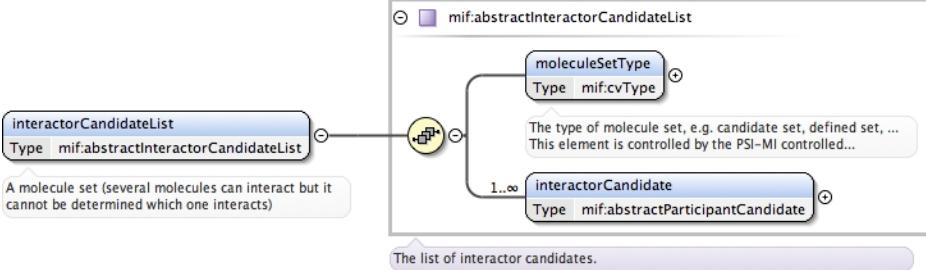
Type	mif:interactor																			
Properties	content: complex																			
Model	mif:names , mif:xref{0,1} , mif:interactorType , mif:organism{0,1} , mif:sequence{0,1} , mif:attributeList{0,1}																			
Children	mif:attributeList, mif:interactorType, mif:names, mif:organism, mif:sequence, mif:xref																			
Instance	<pre><mif:interactor id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:interactorType>{1,1}</mif:interactorType> <mif:organism ncbiTaxId="">{0,1}</mif:organism> <mif:sequence>{0,1}</mif:sequence> <mif:attributeList>{0,1}</mif:attributeList> </mif:interactor></pre>																			
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td colspan="4">All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required		All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.							
QName	Type	Fixed	Default	Use																
id	xs:int			required																
	All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.																			
Source	<pre><x:element name="interactor" type="mif:interactor"> <x:annotation> <x:documentation>Fully describes an interactor</x:documentation> </x:annotation> </x:element></pre>																			

Element mif:abstractParticipant / mif:interactionRef

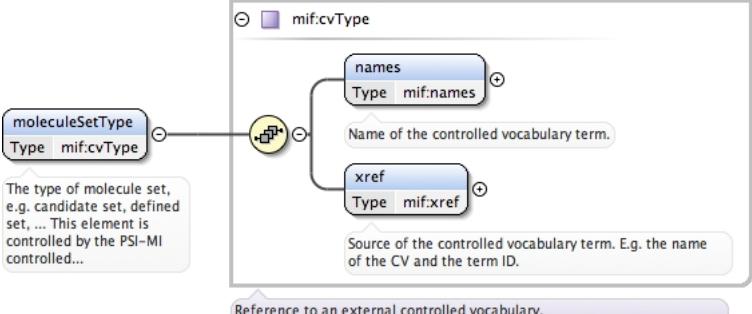
Namespace	http://psi.hupo.org/mi/mif300
Annotations	References an abstract interaction described in this entry. Used for the hierarchical buildup of complexes.

Diagram	
Type	xs:int
Properties	content: simple
Source	<pre><xs:element name="interactionRef" type="xs:int"> <xs:annotation> <xs:documentation>References an abstract interaction described in this entry. Used for the hierarchical buildup of complexes.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:abstractParticipant / mif:interactorCandidateList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A molecule set (several molecules can interact but it cannot be determined which one interacts)
Diagram	
Type	mif:abstractInteractorCandidateList
Properties	content: complex
Model	mif:moleculeSetType , mif:interactorCandidate+
Children	mif:interactorCandidate, mif:moleculeSetType
Instance	<pre><mif:interactorCandidateList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:moleculeSetType>{1,1}</mif:moleculeSetType> <mif:interactorCandidate id="">{1,unbounded}</mif:interactorCandidate> </mif:interactorCandidateList></pre>
Source	<pre><xs:element name="interactorCandidateList" type="mif:abstractInteractorCandidateList"> <xs:annotation> <xs:documentation>A molecule set (several molecules can interact but it cannot be determined which one interacts)</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:abstractInteractorCandidateList / mif:moleculeSetType

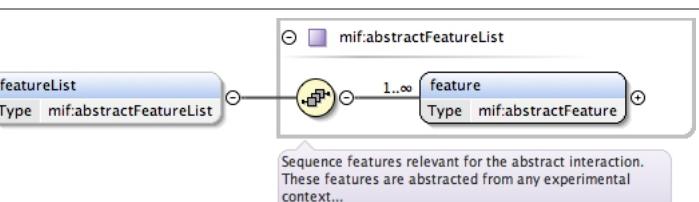
Namespace	http://psi.hupo.org/mi/mif300
Annotations	The type of molecule set, e.g. candidate set, defined set, ... This element is controlled by the PSI-MI controlled vocabulary "interactor", root term id MI:1304.
Diagram	
Type	mif:cvType

Properties	content: complex minOccurs: 1
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<mif:moleculeSetType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:moleculeSetType>
Source	<xs:element name="moleculeSetType" type="mif:cvType" minOccurs="1"> <xs:annotation> <xs:documentation>The type of molecule set, e.g. candidate set, defined set, ... This element is controlled by the PSI-MI controlled vocabulary "interactor", root term id MI:1304.</xs:documentation> </xs:annotation> </xs:element>

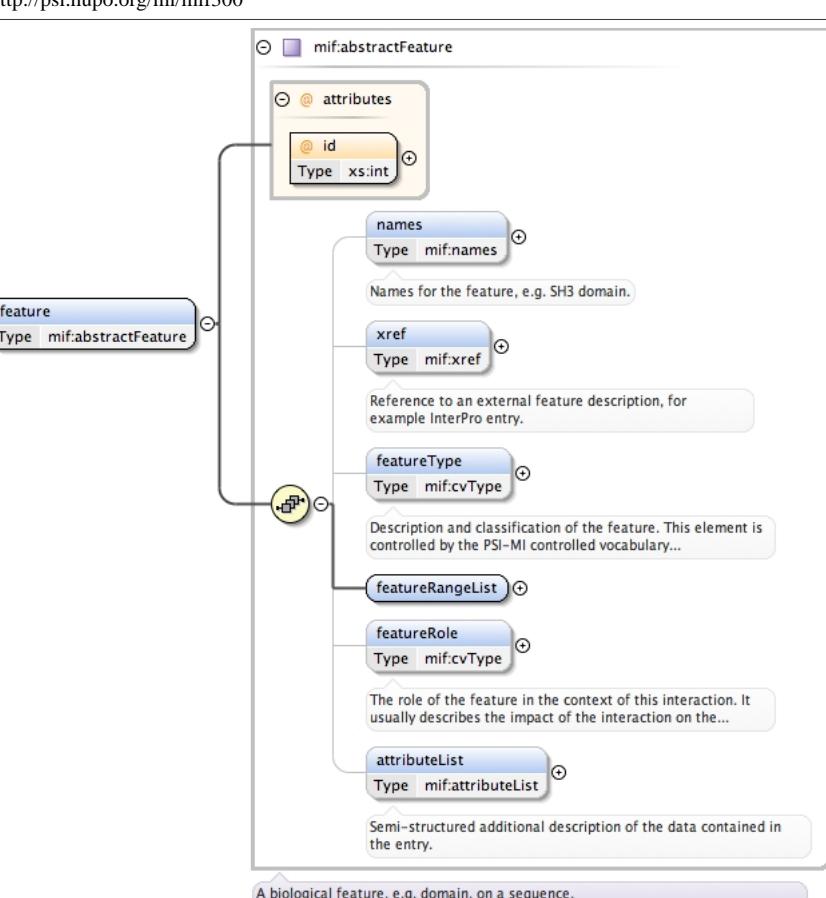
Element mif:abstractInteractorCandidateList / mif:interactorCandidate

Namespace	http://psi.hupo.org/mi/mif300										
Diagram	<p>The diagram illustrates the UML class structure for <code>mif:interactorCandidate</code>. It inherits from <code>mif:abstractParticipantCandidate</code> (Base Type) and <code>mif:participantCandidateParent</code> (extension base). The class has attributes <code>@id</code> (Type <code>xs:int</code>) and <code>interactorRef</code> (Type <code>xs:int</code>). A note states: "References an interactor described in the interactorList of the entry". It also has associations with <code>interactor</code> (Type <code>mif:interactor</code>) and <code>featureList</code> (Type <code>mif:abstractFeatureList</code>). A note for <code>interactor</code> says: "Fully describes an interactor". Another note for <code>featureList</code> says: "A molecule which is part of a molecule set (MI:1304) participating in an interaction. This molecule does not interact...".</p>										
Type	<code>mif:abstractParticipantCandidate</code>										
Type hierarchy	<ul style="list-style-type: none"> • <code>mif:participantCandidateParent</code> • <code>mif:abstractParticipantCandidate</code> 										
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	minOccurs:	1	maxOccurs:	unbounded				
content:	complex										
minOccurs:	1										
maxOccurs:	unbounded										
Model	(<code>mif:interactorRef</code> <code>mif:interactor</code>) , <code>mif:featureList</code> {0,1}										
Children	<code>mif:featureList</code> , <code>mif:interactor</code> , <code>mif:interactorRef</code>										
Instance	<mif:interactorCandidate id="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:interactorRef>{1,1}</mif:interactorRef> <mif:interactor id="1">{1,1}</mif:interactor> <mif:featureList>{0,1}</mif:featureList> </mif:interactorCandidate>										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td><code>id</code></td> <td><code>xs:int</code></td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>id</code>	<code>xs:int</code>			required
QName	Type	Fixed	Default	Use							
<code>id</code>	<code>xs:int</code>			required							
Source	<xs:element name="interactorCandidate" type="mif:abstractParticipantCandidate" maxOccurs="unbounded" minOccurs="1"/>										

Element mif:abstractParticipantCandidate / mif:featureList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	 <p>mif:abstractFeatureList</p> <p>featureList Type mif:abstractFeatureList</p> <p>feature Type mif:abstractFeature</p> <p>Sequence features relevant for the abstract interaction. These features are abstracted from any experimental context...</p>				
Type	mif:abstractFeatureList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:feature+				
Children	mif:feature				
Instance	<pre><mif:featureList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:feature id="">{1,unbounded}</mif:feature> </mif:featureList></pre>				
Source	<pre><xss:element name="featureList" type="mif:abstractFeatureList" minOccurs="0"/></pre>				

Element mif:abstractFeatureList / mif:feature

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	 <p>mif:abstractFeature</p> <p>feature Type mif:abstractFeature</p> <p>attributes</p> <p>@ id Type xs:int</p> <p>names Type mif:names</p> <p>xref Type mif:xref</p> <p>featureType Type mif:cvType</p> <p>featureRangeList</p> <p>featureRole Type mif:cvType</p> <p>attributeList Type mif:attributeList</p> <p>A biological feature, e.g. domain, on a sequence.</p>				
Type	mif:abstractFeature				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	maxOccurs:	unbounded
content:	complex				
maxOccurs:	unbounded				
Model	mif:names{0,1} , mif:xref{0,1} , mif:featureType{0,1} , mif:featureRangeList , mif:featureRole{0,1} , mif:attributeList{0,1}				
Children	mif:attributeList, mif:featureRangeList, mif:featureRole, mif:featureType, mif:names, mif:xref				
Instance	<pre><mif:feature id="" xmlns:mif="http://psi.hupo.org/mi/mif300"></pre>				

```

<mif:names>{0,1}</mif:names>
<mif:xref>{0,1}</mif:xref>
<mif:featureType>{0,1}</mif:featureType>
<mif:featureRangeList>{1,1}</mif:featureRangeList>
<mif:featureRole>{0,1}</mif:featureRole>
<mif:attributeList>{0,1}</mif:attributeList>
</mif:feature>

```

Attributes	QName	Type	Fixed	Default	Use
	id	xs:int			required
Source	<xs:element name="feature" type="mif:abstractFeature" maxOccurs="unbounded" />				

Element mif:abstractFeature / mif:names

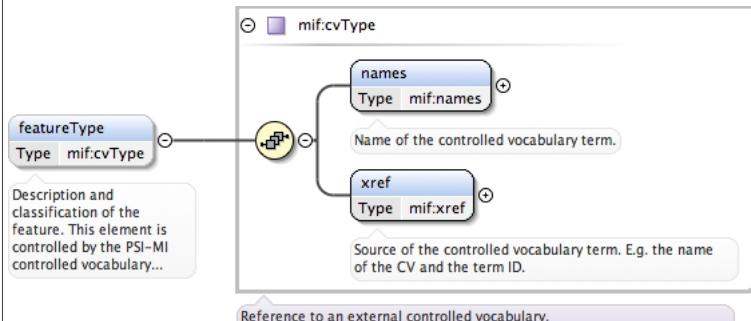
Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Names for the feature, e.g. SH3 domain.				
Diagram	<pre> classDiagram class mif.names { shortLabel : xs:string fullName : xs:string alias : mif.alias } note over mif.names: Names for an object. </pre>				
Type	mif:names				
Properties	<table> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*				
Children	mif:alias, mif:fullName, mif:shortLabel				
Instance	<pre> <mif:names xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:shortLabel>{0,1}</mif:shortLabel> <mif:fullName>{0,1}</mif:fullName> <mif:alias type="" typeAc="">{0,unbounded}</mif:alias> </mif:names> </pre>				
Source	<pre> <xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>Names for the feature, e.g. SH3 domain.</xs:documentation> </xs:annotation> </xs:element> </pre>				

Element mif:abstractFeature / mif:xref

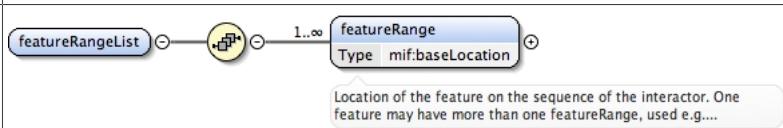
Namespace	http://psi.hupo.org/mi/mif300
Annotations	Reference to an external feature description, for example InterPro entry.
Diagram	<pre> classDiagram class mif.xref { primaryRef : mif.dbReference secondaryRef : mif.dbReference } note over mif.xref: Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into... </pre>
Type	mif:xref

Properties	content: complex minOccurs: 0
Model	mif:primaryRef , mif:secondaryRef*
Children	mif:primaryRef, mif:secondaryRef
Instance	<mif:xref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:primaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{1,1}</mif:primaryRef> <mif:secondaryRef db="" dbAc="" id="" refType="" refTypeAc="" secondary="" version="">{0,unbounded}</mif:secondaryRef> </mif:xref>
Source	<x:element name="xref" type="mif:xref" minOccurs="0"> <x:annotation> <x:documentation>Reference to an external feature description, for example InterPro entry.</x:documentation> </x:annotation> </x:element>

Element mif:abstractFeature / mif:featureType

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Description and classification of the feature. This element is controlled by the PSI-MI controlled vocabulary "feature", root term id MI:0116.
Diagram	
Type	mif:cvType
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<mif:featureType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:featureType>
Source	<x:element name="featureType" type="mif:cvType" maxOccurs="1" minOccurs="0"> <x:annotation> <x:documentation>Description and classification of the feature. This element is controlled by the PSI-MI controlled vocabulary "feature", root term id MI:0116.</x:documentation> </x:annotation> </x:element>

Element mif:abstractFeature / mif:featureRangeList

Namespace	http://psi.hupo.org/mi/mif300
Diagram	
Properties	content: complex
Model	mif:featureRange+ mif:baseLocation

Children	mif:featureRange
Instance	<mif:featureRangeList xmlns:mif="http://psi.hupo.org/mi/mif300"><mif:featureRange>{1,unbounded}</mif:featureRange></mif:featureRangeList>
Source	<pre> <xs:element name="featureRangeList"> <xs:complexType> <xs:sequence> <xs:element name="featureRange" type="mif:baseLocation" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g. for features which involve sequence positions close in the folded, three-dimensional state of a protein, but non-continuous along the sequence.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </pre>

Element mif:abstractFeature / mif:featureRangeList / mif:featureRange

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g. for features which involve sequence positions close in the folded, three-dimensional state of a protein, but non-continuous along the sequence.
Diagram	<pre> classDiagram class featureRange { <<Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g....>> <<Type mif:baseLocation>> } class startStatus { <<Attribute of the start positions, e.g. "certain" or "n-terminal">> <<Type mif:cvType>> } class begin { <<The integer position gives the begin position of the feature. The first base or amino acid is position 1. In...>> <<Type mif:position>> } class beginInterval { <<The begin position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5....>> <<Type mif:interval>> } class endStatus { <<Attribute of the end positions, e.g. "certain" or "c-terminal">> <<Type mif:cvType>> } class end { <<The integer position gives the end position of the feature. The first base or amino acid is position 1. In combination...>> <<Type mif:position>> } class endInterval { <<The end position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5. Negative...>> <<Type mif:interval>> } class isLink { <<True if the described feature is a linking feature connecting two amino acids rather than extending along the sequence....>> <<Type xs:boolean>> <<Default false>> } class resultingSequence { <<The resultingSequence gives some information about the sequence changes.>> <<Type mif:resultingSequenceType>> } class participantRef { <<References a participant described in the entry. The participantRef is aimed at describing complex binding sites such...>> <<Type xs:int>> } featureRange --> startStatus featureRange --> begin featureRange --> beginInterval featureRange --> endStatus featureRange --> end featureRange --> endInterval featureRange --> isLink featureRange --> resultingSequence featureRange --> participantRef </pre> <p>A location on a sequence. Both begin and end can be a defined position, a fuzzy position, or undetermined.</p>
Type	mif:baseLocation

Properties	content: complex maxOccurs: unbounded
Model	mif:startStatus , (mif:begin mif:beginInterval) , mif:endStatus , (mif:end mif:endInterval) , mif:isLink{0,1} , mif:resultingSequence{0,1} , mif:participantRef{0,1}
Children	mif:begin, mif:beginInterval, mif:end, mif:endInterval, mif:endStatus, mif:isLink, mif:participantRef, mif:resultingSequence, mif:startStatus
Instance	<pre><mif:featureRange xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:startStatus>{1,1}</mif:startStatus> <mif:begin position="">{1,1}</mif:begin> <mif:beginInterval begin="" end="">{1,1}</mif:beginInterval> <mif:endStatus>{1,1}</mif:endStatus> <mif:end position="">{1,1}</mif:end> <mif:endInterval begin="" end="">{1,1}</mif:endInterval> <mif:isLink>{0,1}</mif:isLink> <mif:resultingSequence>{0,1}</mif:resultingSequence> <mif:participantRef>{0,1}</mif:participantRef> </mif:featureRange></pre>
Source	<pre><xs:element name="featureRange" type="mif:baseLocation" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g. for features which involve sequence positions close in the folded, three-dimensional state of a protein, but non-continuous along the sequence.</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:abstractFeature / mif:featureRole

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of the feature on the interaction. (Ex: prerequisite-ptm,...).
Diagram	<pre> classDiagram class mif:cvType { <<The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of the feature on the interaction. (Ex: prerequisite-ptm,...).>> <<Reference to an external controlled vocabulary.>> <<Name of the controlled vocabulary term.>> <<Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.>> } class featureRole { <<The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of the feature on the interaction. (Ex: prerequisite-ptm,...).>> <<Reference to an external controlled vocabulary.>> <<Name of the controlled vocabulary term.>> <<Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.>> } featureRole "1" -- "0..1" mif:cvType : <<The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of the feature on the interaction. (Ex: prerequisite-ptm,...).>> mif:cvType "0..1" -- "1..1" names : <<Name of the controlled vocabulary term.>> mif:cvType "0..1" -- "1..1" xref : <<Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.>> </pre>
Type	mif:cvType
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<pre><mif:featureRole xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:featureRole></pre>
Source	<pre><xs:element name="featureRole" type="mif:cvType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of the feature on the interaction. (Ex: prerequisite-ptm,...).</xs:documentation> </xs:annotation> </xs:element></pre>

Element mif:abstractFeature / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300
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Annotations	Semi-structured additional description of the data contained in the entry.				
Diagram	<pre> classDiagram class attributeList { <<mif:attributeList>> attribute } attributeList "1..>" attribute attribute "Type mif:attribute" </pre> <p>A list of additional attributes. Open tag-value list to allow the inclusion of additional data.</p>				
Type	mif:attributeList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				
Children	mif:attribute				
Instance	<pre> <mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList> </pre>				
Source	<pre> <xss:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xss:annotation> <xss:documentation>Semi-structured additional description of the data contained in the entry.</xss:documentation> </xss:annotation> </xss:element> </pre>				

Element mif:abstractParticipant / mif:biologicalRole

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	<p>The role of the participant in the interaction. This describes the biological role, e.g. enzyme or enzyme target.</p> <p>The experimental role of the participant, e.g. 'bait', is shown in experimentalForm. This element is controlled by the PSI-MI controlled vocabulary "biologicalRole", root term id MI:0500.</p>				
Diagram	<pre> classDiagram class cvType { <<mif:cvType>> names xref } cvType "0..>" biologicalRole biologicalRole "Type mif:cvType" </pre> <p>Name of the controlled vocabulary term.</p> <p>Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.</p> <p>Reference to an external controlled vocabulary.</p>				
Type	mif:cvType				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:names , mif:xref				
Children	mif:names, mif:xref				
Instance	<pre> <mif:biologicalRole xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:biologicalRole> </pre>				
Source	<pre> <xss:element name="biologicalRole" type="mif:cvType" minOccurs="0"> <xss:annotation> <xss:documentation>The role of the participant in the interaction. This describes the biological role, e.g. enzyme or enzyme target. The experimental role of the participant, e.g. 'bait', is shown in experimentalForm. This element is controlled by the PSI-MI controlled vocabulary "biologicalRole", root term id MI:0500.</xss:documentation> </xss:annotation> </xss:element> </pre>				

Element mif:abstractParticipant / mif:featureList

Namespace	http://psi.hupo.org/mi/mif300
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Diagram	
Type	mif:abstractFeatureList
Properties	<p>content: complex</p> <p>minOccurs: 0</p>
Model	mif:feature+
Children	mif:feature
Instance	<mif:featureList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:feature id="">{1,unbounded}</mif:feature> </mif:featureList>
Source	<xss:element name="featureList" type="mif:abstractFeatureList" minOccurs="0"/>

Element mif:abstractParticipant / mif:stoichiometry

Namespace	http://psi.hupo.org/mi/mif300																			
Annotations	The stoichiometry of the participant.																			
Diagram																				
Type	mif:stoichiometryType																			
Properties	content: complex																			
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>value</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td>The participant stoichiometry value</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					QName	Type	Fixed	Default	Use	value	xs:int			required		The participant stoichiometry value			
QName	Type	Fixed	Default	Use																
value	xs:int			required																
	The participant stoichiometry value																			
Source	<xss:element name="stoichiometry" type="mif:stoichiometryType"> <xss:annotation> <xss:documentation>The stoichiometry of the participant.</xss:documentation> </xss:annotation> </xss:element>																			

Element mif:abstractParticipant / mif:stoichiometryRange

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	The stoichiometry range of the participant.				
Diagram					
Type	mif:stoichiometryRangeType				
Properties	content: complex				

Properties	content: complex				
Attributes	QName	Type	Fixed	Default	Use
	maxValue	xs:int			required
		The maximum stoichiometry value			
	minValue	xs:int			required
		The minimum stoichiometry value			
Source	<pre><xs:element name="stoichiometryRange" type="mif:stoichiometryRangeType"> <xs:annotation> <xs:documentation>The stoichiometry range of the participant.</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:abstractParticipant / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Semi-structured additional description of the data contained in the entry.				
Diagram	<pre> classDiagram class attributeList { Type mif:attributeList } class attribute { Type mif:attribute } attributeList "1..∞" --> attribute attributeList "1..∞" --> "Semi-structured additional description of the data contained in the entry." attribute "1..∞" --> "A list of additional attributes. Open tag-value list to allow the inclusion of additional data." </pre>				
Type	mif:attributeList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				
Children	mif:attribute				
Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList></pre>				
Source	<pre><xs:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xs:annotation> <xs:documentation>Semi-structured additional description of the data contained in the entry.</xs:documentation> </xs:annotation> </xs:element></pre>				

Element mif:abstractInteraction / mif:bindingFeatureList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<pre> classDiagram class bindingFeatureList { Type mif:bindingFeatureList } class bindingFeatures { Type mif:bindingFeatures } bindingFeatureList "1..∞" --> bindingFeatures bindingFeatureList "1..∞" --> "Show the topology of interactions within a complex." </pre>				
Type	mif:bindingFeatureList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:bindingFeatures+				
Children	mif:bindingFeatures				
Instance	<pre><mif:bindingFeatureList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:bindingFeatures>{1,unbounded}</mif:bindingFeatures> </mif:bindingFeatureList></pre>				
Source	<pre><xs:element name="bindingFeatureList" type="mif:bindingFeatureList" minOccurs="0"/></pre>				

Element mif:bindingFeatureList / mif:bindingFeatures

Namespace	http://psi.hupo.org/mi/mif300
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Diagram	<p>The diagram shows a UML class named 'mif:bindingFeatures' with a sequence of 'participantFeatureRef' elements. A note below states: 'List all the features reported in the complex that are linked to each other.'</p>
Type	mif:bindingFeatures
Properties	<p>content: complex</p> <p>maxOccurs: unbounded</p>
Model	mif:participantFeatureRef{2,unbounded}
Children	mif:participantFeatureRef
Instance	<mif:bindingFeatures xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:participantFeatureRef>{2,unbounded}</mif:participantFeatureRef> </mif:bindingFeatures>
Source	<xss:element name="bindingFeatures" type="mif:bindingFeatures" maxOccurs="unbounded"/>

Element mif:bindingFeatures / mif:participantFeatureRef

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram shows a UML class named 'mif:participantFeatureRef' with a single attribute 'xs:int'. A note below states: 'Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...'</p>
Type	xs:int
Properties	<p>content: simple</p> <p>minOccurs: 2</p> <p>maxOccurs: unbounded</p>
Source	<xss:element name="participantFeatureRef" type="xs:int" minOccurs="2" maxOccurs="unbounded"/>

Element mif:abstractInteraction / mif:interactionType

Namespace	http://psi.hupo.org/mi/mif300
Annotations	External controlled vocabulary characterising the interaction type, for example "physical interaction".
Diagram	<p>The diagram shows a UML class named 'mif:cvType' with attributes 'names' (type 'mif:names') and 'xref' (type 'mif:xref'). A note below states: 'Reference to an external controlled vocabulary.'</p>
Type	mif:cvType
Properties	<p>content: complex</p> <p>minOccurs: 0</p>
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<mif:interactionType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:interactionType>
Source	<xss:element name="interactionType" type="mif:cvType" minOccurs="0"> <xss:annotation>

```
<xs:documentation>External controlled vocabulary characterising the interaction type, for example "physical interaction".</xs:documentation>
</xs:annotation>
</xs:element>
```

Element mif:abstractInteraction / mif:intraMolecular

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	If true, this interaction is an intramolecular interaction, e.g. an autophosphorylation. If missing, this element is assumed to be false.						
Diagram	<p>The diagram shows a class named 'intraMolecular' with a single attribute 'xs:boolean'. A note below the class states: 'If true, this interaction is an intramolecular interaction, e.g. an autophosphorylation. If missing, this element is...'.</p> <p>A callout box points to the 'xs:boolean' type with the text: 'Built-in primitive type. It defines the boolean values true and false.'</p>						
Type	xs:boolean						
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>default:</td> <td>false</td> </tr> </table>	content:	simple	minOccurs:	0	default:	false
content:	simple						
minOccurs:	0						
default:	false						
Source	<pre><xs:element name="intraMolecular" type="xs:boolean" default="false" minOccurs="0"> <xs:annotation> <xs:documentation>If true, this interaction is an intramolecular interaction, e.g. an autophosphorylation. If missing, this element is assumed to be false.</xs:documentation> </xs:annotation> </xs:element></pre>						

Element mif:abstractInteraction / mif:confidenceList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<p>The diagram shows a class named 'confidenceList' with a single attribute 'confidence' of type 'mif:abstractConfidence'. A note below the class states: 'A list of confidence values for a complex or abstract interaction. These confidences can refer to their original...'</p>				
Type	mif:abstractConfidenceList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:confidence+				
Children	mif:confidence				
Instance	<pre><mif:confidenceList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:confidence>{1,unbounded}</mif:confidence> </mif:confidenceList></pre>				
Source	<pre><xs:element name="confidenceList" type="mif:abstractConfidenceList" minOccurs="0"/></pre>				

Element mif:abstractConfidenceList / mif:confidence

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram shows a class named 'confidence' with three attributes: 'type' (mif:openCvType), 'value' (restriction of 'xs:string'), and 'bibref' (mif:bibref). A note below the class states: 'A confidence value for a complex or other 'abstract' interaction. It can refer to its original publication/review.'</p>

Type	mif:abstractConfidence
Properties	content: complex maxOccurs: unbounded
Model	mif:type , mif:value , mif:bibref{0,1}
Children	mif:bibref, mif:type, mif:value
Instance	<pre><mif:confidence xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:type>{1,1}</mif:type> <mif:value>{1,1}</mif:value> <mif:bibref>{0,1}</mif:bibref> </mif:confidence></pre>
Source	<pre><xs:element name="confidence" type="mif:abstractConfidence" maxOccurs="unbounded" /></pre>

Element mif:abstractConfidence / mif:type

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram illustrates the structure of the <code>mif:openCvType</code> element. It consists of three main components: <code>names</code>, <code>xref</code>, and <code>attributeList</code>. The <code>names</code> component is described as containing controlled vocabulary terms, either short or long forms. The <code>xref</code> component refers to terms in an external database. The <code>attributeList</code> component is used if no suitable external controlled vocabulary is available. A note at the bottom indicates that it allows referencing an external controlled vocabulary or including a value directly if no suitable external is provided.</p>
Type	mif:openCvType
Properties	content: complex
Model	mif:names , mif:xref{0,1} , mif:attributeList{0,1}
Children	mif:attributeList, mif:names, mif:xref
Instance	<pre><mif:type xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{0,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> </mif:type></pre>
Source	<pre><xs:element name="type" type="mif:openCvType" /></pre>

Element mif:abstractConfidence / mif:value

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>The diagram shows the <code>mif:value</code> element as a restriction of <code>xs:string</code>. It includes a note indicating that it restricts the string type.</p>
Type	restriction of xs:string
Properties	content: simple
Facets	minLength 1
Source	<pre><xs:element name="value"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

Element mif:abstractConfidence / mif:bibref

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<pre> classDiagram class bibref class mifbibref { attribute xref attribute attributeList attribute attributeList } bibref "0..1" --> mifbibref </pre>				
Type	mif:bibref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	(mif:xref , mif:attributeList{0,1} (mif:attributeList)				
Children	mif:attributeList, mif:xref				
Instance	<pre> <mif:bibref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:xref>{1,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> <mif:attributeList>{1,1}</mif:attributeList> </mif:bibref> </pre>				
Source	<xss:element name="bibref" type="mif:bibref" minOccurs="0"/>				

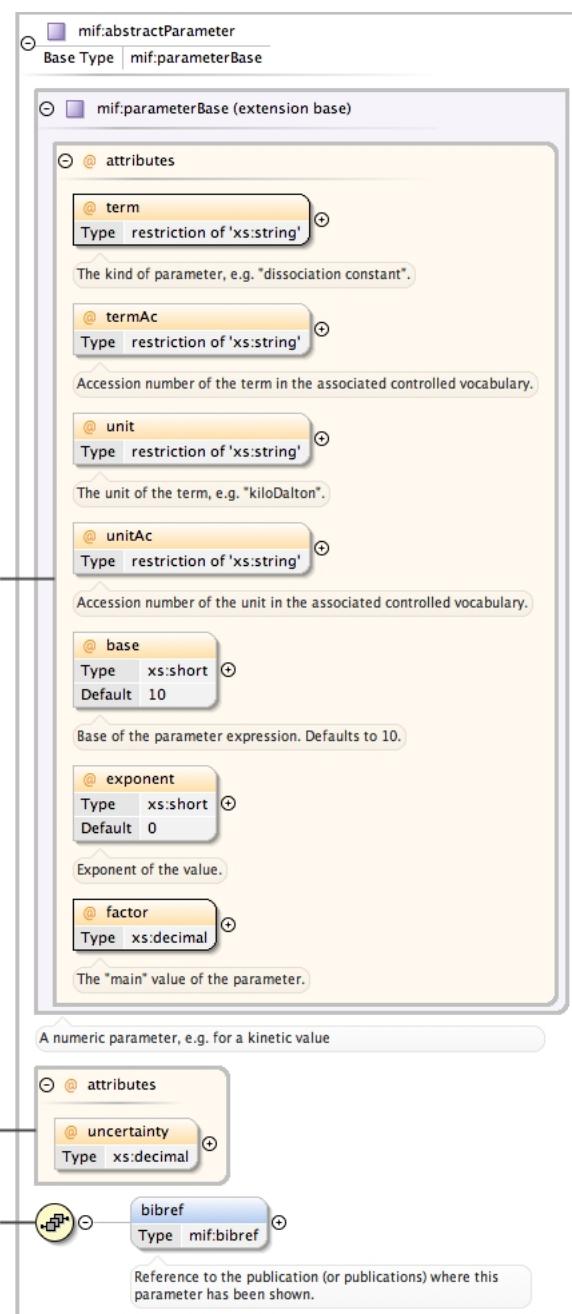
Element mif:abstractInteraction / mif:parameterList

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<pre> classDiagram class parameterList class mifabstractParameterList { attribute parameter } parameterList "0..1" --> mifabstractParameterList </pre>				
Type	mif:abstractParameterList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:parameter+				
Children	mif:parameter				
Instance	<pre> <mif:parameterList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:parameter base="10" exponent="0" factor="" term="" termAc="" uncertainty="" unit="" unitAc="" /> ... </mif:parameterList> </pre>				
Source	<xss:element name="parameterList" type="mif:abstractParameterList" minOccurs="0"/>				

Element mif:abstractParameterList / mif:parameter

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	<code>mif:abstractParameter</code>															
Type hierarchy	<ul style="list-style-type: none"> • <code>mif:parameterBase</code> • <code>mif:abstractParameter</code> 															
Properties	<p>content: <code>complex</code></p> <p>maxOccurs: <code>unbounded</code></p>															
Model	<code>mif:bibref{0,1}</code>															
Children	<code>mif:bibref</code>															
Instance	<pre><mif:parameter base="10" exponent="0" factor="" term="" termAc="" uncertainty="" unit="" unitAc="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:bibref>{0,1}</mif:bibref> </mif:parameter></pre>															
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td>base</td><td><code>xs:short</code></td><td></td><td>10</td><td>optional</td></tr> <tr> <td></td><td></td><td colspan="3">Base of the parameter expression. Defaults to 10.</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	base	<code>xs:short</code>		10	optional			Base of the parameter expression. Defaults to 10.		
QName	Type	Fixed	Default	Use												
base	<code>xs:short</code>		10	optional												
		Base of the parameter expression. Defaults to 10.														

QName	Type	Fixed	Default	Use
exponent	xs:short		0	optional
	Exponent of the value.			
factor	xs:decimal			required
	The "main" value of the parameter.			
term	restriction of xs:string			required
	The kind of parameter, e.g. "dissociation constant".			
termAc	restriction of xs:string			optional
	Accession number of the term in the associated controlled vocabulary.			
uncertainty	xs:decimal			optional
unit	restriction of xs:string			optional
	The unit of the term, e.g. "kiloDalton".			
unitAc	restriction of xs:string			optional
	Accession number of the unit in the associated controlled vocabulary.			
Source	<xss:element name="parameter" type="mif:abstractParameter" maxOccurs="unbounded" />			

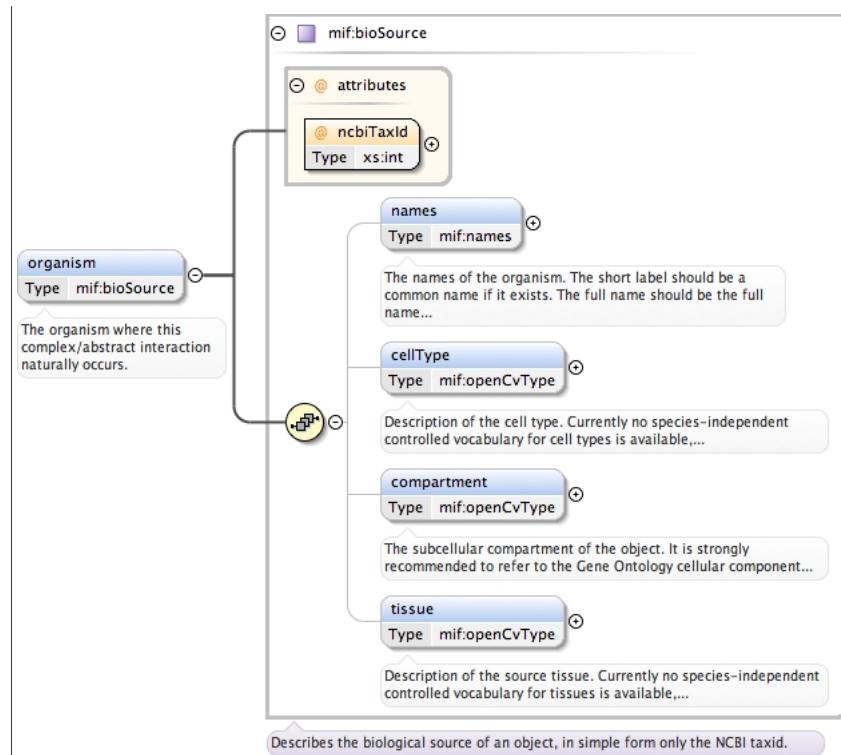
Element mif:abstractParameter / mif:bibref

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Reference to the publication (or publications) where this parameter has been shown.				
Diagram	<pre> classDiagram class bibref { xref : mif:xref attributeList : mif:attributeList attributeList : mif:attributeList } bibref < -- mif:bibref mif:bibref < -- xref mif:bibref < -- attributeList mif:bibref < -- attributeList </pre> <p>Bibliographic reference in external database, usually PubMed.</p> <p>Additional description of bibliographic reference such as publication title, authors, journal, publication date...</p> <p>Alternative description of bibliographic reference if no external database entry is available.</p> <p>Bibliographic reference.</p>				
Type	mif:bibref				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	(mif:xref , mif:attributeList{0,1}) (mif:attributeList)				
Children	mif:attributeList, mif:xref				
Instance	<mif:bibref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:xref>{1,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> <mif:attributeList>{1,1}</mif:attributeList> </mif:bibref>				
Source	<xss:element name="bibref" type="mif:bibref" minOccurs="0"> <xss:annotation> <xss:documentation>Reference to the publication (or publications) where this parameter has been shown.</xss:documentation> </xss:annotation> </xss:element>				

Element mif:abstractInteraction / mif:organism

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The organism where this complex/abstract interaction naturally occurs.

Diagram



Type	<code>mif:bioSource</code>
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Properties	content: complex minOccurs: 0
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Model	<code>mif:names{0,1}</code> , <code>mif:cellType{0,1}</code> , <code>mif:compartment{0,1}</code> , <code>mif:tissue{0,1}</code>
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Children	<code>mif:cellType</code> , <code>mif:compartment</code> , <code>mif:names</code> , <code>mif:tissue</code>
----------	---

Instance	<pre><mif:organism ncbiTaxId="" xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{0,1}</mif:names> <mif:cellType>{0,1}</mif:cellType> <mif:compartment>{0,1}</mif:compartment> <mif:tissue>{0,1}</mif:tissue> </mif:organism></pre>
----------	--

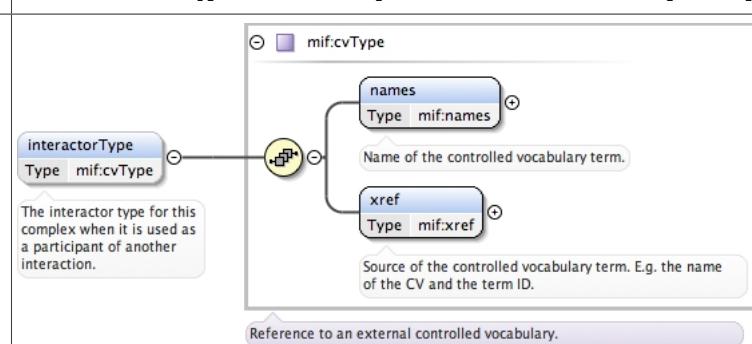
Attributes	QName	Type	Fixed	Default	Use
	<code>ncbiTaxId</code>	xs:int			required

Source	<pre><xss:element name="organism" type="mif:bioSource" minOccurs="0"> <xss:annotation> <xss:documentation>The organism where this complex/abstract interaction naturally occurs.</xss:documentation> </xss:annotation> </xss:element></pre>
--------	---

Element `mif:abstractInteraction / mif:interactorType`

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The interactor type for this complex when it is used as a participant of another interaction.

Diagram



Type	mif:cvType
Properties	<p>content: complex</p> <p>minOccurs: 0</p>
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<pre><mif:interactorType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:interactorType></pre>
Source	<pre><x:element name="interactorType" type="mif:cvType" minOccurs="0"> <x:annotation> <x:documentation>The interactor type for this complex when it is used as a participant of another interaction.</x:documentation> </x:annotation> </x:element></pre>

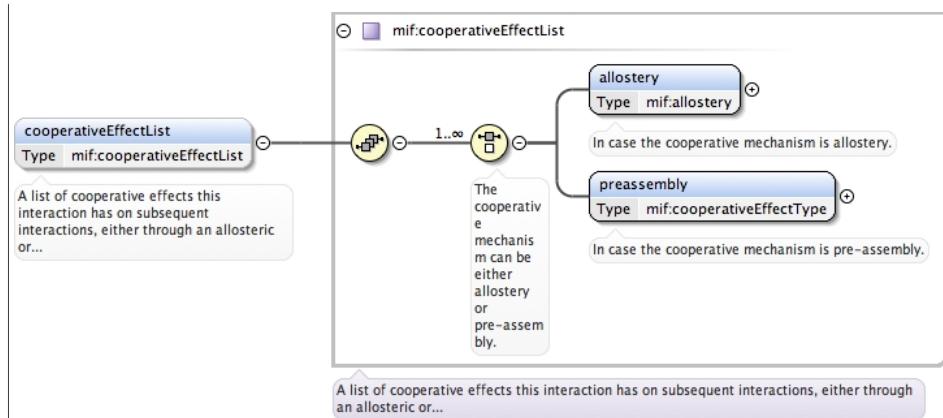
Element mif:abstractInteraction / mif:evidenceType

Namespace	http://psi.hupo.org/mi/mif300
Annotations	External controlled vocabulary characterising the evidence type (usually from the Evidence Ontology), for example "physical interaction evidence, inferred from literature".
Diagram	<pre> classDiagram class mif_cvType { <<External controlled vocabulary characterising the evidence type (usually from the Evidence Ontology), for example...>> } class evidenceType { <<External controlled vocabulary characterising the evidence type (usually from the Evidence Ontology), for example...>> <<Name of the controlled vocabulary term.>> <<Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.>> } mif_cvType < -- evidenceType evidenceType < -- names : mif.names evidenceType < -- xref : mif:xref </pre>
Type	mif:cvType
Properties	<p>content: complex</p> <p>minOccurs: 0</p>
Model	mif:names , mif:xref
Children	mif:names, mif:xref
Instance	<pre><mif:evidenceType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:evidenceType></pre>
Source	<pre><x:element name="evidenceType" type="mif:cvType" minOccurs="0"> <x:annotation> <x:documentation>External controlled vocabulary characterising the evidence type (usually from the Evidence Ontology), for example "physical interaction evidence, inferred from literature".</x:documentation> </x:annotation> </x:element></pre>

Element mif:abstractInteraction / mif:cooperativeEffectList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A list of cooperative effects this interaction has on subsequent interactions, either through an allosteric or pre-assembly effect.

Diagram

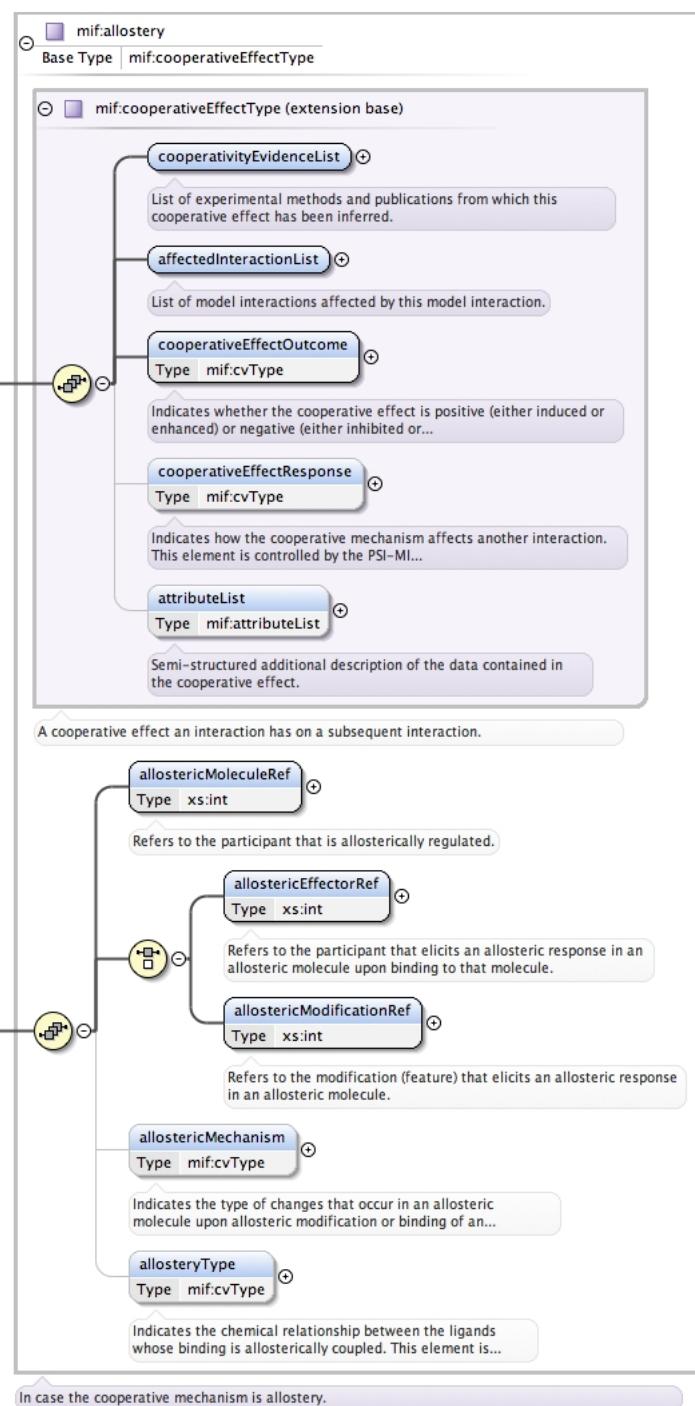


Type	<code>mif:cooperativeEffectList</code>				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	<code>(mif:allostery mif:preassembly)</code>				
Children	<code>mif:allostery, mif:preassembly</code>				
Instance	<pre><mif:cooperativeEffectList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:allostery>{1,1}</mif:allostery> <mif:preassembly>{1,1}</mif:preassembly> </mif:cooperativeEffectList></pre>				
Source	<pre><xss:element name="cooperativeEffectList" type="mif:cooperativeEffectList" minOccurs="0"> <xss:annotation> <xss:documentation>A list of cooperative effects this interaction has on subsequent interactions, either through an allosteric or pre-assembly effect.</xss:documentation> </xss:annotation> </xss:element></pre>				

Element `mif:cooperativeEffectList / mif:allostery`

Namespace	http://psi.hupo.org/mi/mif300
Annotations	In case the cooperative mechanism is allosteric.

Diagram



Type	mif:allostery
Type hierarchy	<ul style="list-style-type: none"> • mif:cooperativeEffectType <ul style="list-style-type: none"> • mif:allostery
Properties	content: complex
Model	mif:cooperativityEvidenceList , mif:affectedInteractionList , mif:cooperativeEffectOutcome , mif:cooperativeEffectResponse{0,1} , mif:attributeList{0,1} , mif:allostericMoleculeRef , (mif:allostericEffectorRef mif:allostericModificationRef) , mif:allostericMechanism{0,1} , mif:allosteryType{0,1}
Children	mif:affectedInteractionList, mif:allostericEffectorRef, mif:allostericMechanism, mif:allostericModificationRef, mif:allostericMoleculeRef, mif:allosteryType, mif:attributeList, mif:cooperativeEffectOutcome, mif:cooperativeEffectResponse, mif:cooperativityEvidenceList
Instance	<pre><mif:allostery xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:cooperativityEvidenceList>[1,1]</mif:cooperativityEvidenceList> <mif:affectedInteractionList>{1,1}</mif:affectedInteractionList></pre>

	<pre> <mif:cooperativeEffectOutcome>{1,1}</mif:cooperativeEffectOutcome> <mif:cooperativeEffectResponse>{0,1}</mif:cooperativeEffectResponse> <mif:attributeList>{0,1}</mif:attributeList> <mif:allostericMoleculeRef>{1,1}</mif:allostericMoleculeRef> <mif:allostericEffectorRef>{1,1}</mif:allostericEffectorRef> <mif:allostericModificationRef>{1,1}</mif:allostericModificationRef> <mif:allostericMechanism>{0,1}</mif:allostericMechanism> <mif:allosteryType>{0,1}</mif:allosteryType> </mif:allostery> </pre>
Source	<pre> <xss:element name="allostery" type="mif:allostery"> <xss:annotation> <xss:documentation>In case the cooperative mechanism is allostery.</xss:documentation> </xss:annotation> </xss:element> </pre>

Element mif:cooperativeEffectType / mif:cooperativityEvidenceList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	List of experimental methods and publications from which this cooperative effect has been inferred.
Diagram	<pre> classDiagram class cooperativityEvidenceList class cooperativityEvidenceDescription { <<Type mif:evidenceType>> } cooperativityEvidenceList "1..oo" --> cooperativityEvidenceDescription </pre> <p>List of experimental methods and publications from which this cooperative effect has been inferred.</p>
Properties	content: complex
Model	mif:cooperativityEvidenceDescription+
Children	mif:cooperativityEvidenceDescription
Instance	<pre> <mif:cooperativityEvidenceList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:cooperativityEvidenceDescription>{1,unbounded}</mif:cooperativityEvidenceDescription> </mif:cooperativityEvidenceList> </pre>
Source	<pre> <xss:element name="cooperativityEvidenceList"> <xss:annotation> <xss:documentation>List of experimental methods and publications from which this cooperative effect has been inferred.</xss:documentation> </xss:annotation> <xss:complexType> <xss:sequence> <xss:element name="cooperativityEvidenceDescription" type="mif:evidenceType" minOccurs="1" maxOccurs="unbounded"> </xss:element> </xss:sequence> </xss:complexType> </xss:element> </pre>

Element mif:cooperativeEffectType / mif:cooperativityEvidenceList / mif:cooperativityEvidenceDescription

Namespace	http://psi.hupo.org/mi/mif300						
Diagram	<pre> classDiagram class cooperativityEvidenceDescription { <<Type mif:evidenceType>> } class mif:evidenceType { bibref Type mif:bibref } cooperativityEvidenceDescription --> mif:evidenceType mif:evidenceType "1..oo" --> evidenceMethodList </pre> <p>Publication describing the experiments from which this cooperative effect has been inferred.</p> <p>Experimental methods from which this cooperative effect has been inferred.</p> <p>List of experimental methods and corresponding publication from which this cooperative effect has been inferred.</p>						
Type	mif:evidenceType						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	minOccurs:	1	maxOccurs:	unbounded
content:	complex						
minOccurs:	1						
maxOccurs:	unbounded						
Model	mif:bibref , mif:evidenceMethodList{0,1}						

Children	mif:bibref, mif:evidenceMethodList
Instance	<mif:cooperativityEvidenceDescription xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:bibref>{1,1}</mif:bibref> <mif:evidenceMethodList>{0,1}</mif:evidenceMethodList> </mif:cooperativityEvidenceDescription>
Source	<xs:element name="cooperativityEvidenceDescription" type="mif:evidenceType" minOccurs="1" maxOccurs="unbounded"> </xs:element>

Element mif:evidenceType / mif:bibref

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Publication describing the experiments from which this cooperative effect has been inferred.						
Diagram	<p>Bibliographic reference.</p>						
Type	mif:bibref						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	complex	minOccurs:	1	maxOccurs:	1
content:	complex						
minOccurs:	1						
maxOccurs:	1						
Model	(mif:xref , mif:attributeList{0,1}) (mif:attributeList)						
Children	mif:attributeList, mif:xref						
Instance	<mif:bibref xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:xref>{1,1}</mif:xref> <mif:attributeList>{0,1}</mif:attributeList> <mif:attributeList>{1,1}</mif:attributeList> </mif:bibref>						
Source	<xs:element name="bibref" type="mif:bibref" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>Publication describing the experiments from which this cooperative effect has been inferred.</xs:documentation> <xs:annotation> </xs:element>						

Element mif:evidenceType / mif:evidenceMethodList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Experimental methods from which this cooperative effect has been inferred.				
Diagram	<p>Experimental methods from which this cooperative effect has been inferred.</p>				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:evidenceMethod+				
Children	mif:evidenceMethod				
Instance	<mif:evidenceMethodList xmlns:mif="http://psi.hupo.org/mi/mif300">				

	<pre><mif:evidenceMethod>{1,unbounded}</mif:evidenceMethod> </mif:evidenceMethodList></pre>
Source	<pre><xss:element name="evidenceMethodList" minOccurs="0"> <xss:annotation> <xss:documentation>Experimental methods from which this cooperative effect has been inferred.</xss:documentation> </xss:annotation> <xss:complexType> <xss:sequence> <xss:element name="evidenceMethod" type="mif:cvType" minOccurs="1" maxOccurs="unbounded" /> </xss:sequence> </xss:complexType> </xss:element></pre>

Element mif:evidenceType / mif:evidenceMethodList / mif:evidenceMethod

Namespace	http://psi.hupo.org/mi/mif300						
Diagram							
Type	mif:cvType						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	complex	minOccurs:	1	maxOccurs:	unbounded
content:	complex						
minOccurs:	1						
maxOccurs:	unbounded						
Model	mif:names , mif:xref						
Children	mif:names, mif:xref						
Instance	<pre><mif:evidenceMethod xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:evidenceMethod></pre>						
Source	<pre><xss:element name="evidenceMethod" type="mif:cvType" minOccurs="1" maxOccurs="unbounded" /></pre>						

Element mif:cooperativeEffectType / mif:affectedInteractionList

Namespace	http://psi.hupo.org/mi/mif300		
Annotations	List of model interactions affected by this model interaction.		
Diagram			
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> </table>	content:	complex
content:	complex		
Model	mif:affectedInteractionRef+		
Children	mif:affectedInteractionRef		
Instance	<pre><mif:affectedInteractionList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:affectedInteractionRef>{1,unbounded}</mif:affectedInteractionRef> </mif:affectedInteractionList></pre>		
Source	<pre><xss:element name="affectedInteractionList"> <xss:annotation> <xss:documentation>List of model interactions affected by this model interaction.</xss:documentation> </xss:annotation> <xss:complexType> <xss:sequence> <xss:element name="affectedInteractionRef" type="xs:int" minOccurs="1" maxOccurs="unbounded" /> </xss:sequence> </xss:complexType> </xss:element></pre>		

```

<xs:annotation>
  <xs:documentation>Refers to the model interaction that is affected by the current model
interaction.</xs:documentation>
  </xs:annotation>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>

```

Element mif:cooperativeEffectType / mif:affectedInteractionList / mif:affectedInteractionRef

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Refers to the model interaction that is affected by the current model interaction.						
Diagram	<p>The diagram shows a UML class named 'mif:affectedInteractionRef' with a reference arrow pointing to a box labeled 'xs:int'. A callout box next to 'mif:affectedInteractionRef' states: 'Refers to the model interaction that is affected by the current model interaction.' A callout box next to 'xs:int' states: 'Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...'.</p>						
Type	xs:int						
Properties	<table border="1"> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>unbounded</td> </tr> </table>	content:	simple	minOccurs:	1	maxOccurs:	unbounded
content:	simple						
minOccurs:	1						
maxOccurs:	unbounded						
Source	<pre> <xs:element name="affectedInteractionRef" type="xs:int" minOccurs="1" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Refers to the model interaction that is affected by the current model interaction.</xs:documentation> </xs:annotation> </xs:element> </pre>						

Element mif:cooperativeEffectType / mif:cooperativeEffectOutcome

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Indicates whether the cooperative effect is positive (either induced or enhanced) or negative (either inhibited or abrogated). This element is controlled by the PSI-MI controlled vocabulary "cooperative effect outcome" root term, id MI:1153.						
Diagram	<p>The diagram shows a UML class named 'mif:cooperativeEffectOutcome' with a reference arrow pointing to a box labeled 'mif:cvType'. A callout box next to 'mif:cooperativeEffectOutcome' states: 'Indicates whether the cooperative effect is positive (either induced or enhanced) or negative (either inhibited or...)'.</p> <p>A larger box labeled 'mif:cvType' contains two elements: 'names' (Type: mif:names) and 'xref' (Type: mif:xref). A callout box next to 'names' states: 'Name of the controlled vocabulary term.' A callout box next to 'xref' states: 'Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.' A callout box at the bottom states: 'Reference to an external controlled vocabulary.'</p>						
Type	mif:cvType						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	complex	minOccurs:	1	maxOccurs:	1
content:	complex						
minOccurs:	1						
maxOccurs:	1						
Model	mif:names , mif:xref						
Children	mif:names, mif:xref						
Instance	<pre> <mif:cooperativeEffectOutcome xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:cooperativeEffectOutcome> </pre>						
Source	<pre> <xs:element name="cooperativeEffectOutcome" type="mif:cvType" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>Indicates whether the cooperative effect is positive (either induced or enhanced) or negative (either inhibited or abrogated). This element is controlled by the PSI-MI controlled vocabulary "cooperative effect outcome" root term, id MI:1153.</xs:documentation> </xs:annotation> </xs:element> </pre>						

```

</xs:annotation>
</xs:elements>

```

Element mif:cooperativeEffectType / mif:cooperativeEffectResponse

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Indicates how the cooperative mechanism affects another interaction. This element is controlled by the PSI-MI controlled vocabulary "cooperative effect response" root term, id MI:.						
Diagram	<p>The diagram illustrates the UML class 'cooperativeEffectResponse'. It has two attributes: 'names' (Type: mif:names) and 'xref' (Type: mif:xref), both with a multiplicity of 1..1. A note states: 'Indicates how the cooperative mechanism affects another interaction. This element is controlled by the PSI-MI vocabulary.'</p>						
Type	mif:cvType						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	1
content:	complex						
minOccurs:	0						
maxOccurs:	1						
Model	mif:names , mif:xref						
Children	mif:names, mif:xref						
Instance	<pre> <mif:cooperativeEffectResponse xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:cooperativeEffectResponse> </pre>						
Source	<pre> <xs:element name="cooperativeEffectResponse" type="mif:cvType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Indicates how the cooperative mechanism affects another interaction. This element is controlled by the PSI-MI controlled vocabulary "cooperative effect response" root term, id MI:</xs:documentation> </xs:annotation> </xs:element> </pre>						

Element mif:cooperativeEffectType / mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Semi-structured additional description of the data contained in the cooperative effect.				
Diagram	<p>The diagram illustrates the UML class 'attributeList'. It has one attribute: 'attribute' (Type: mif:attribute) with a multiplicity of 1..infinity. A note states: 'Semi-structured additional description of the data contained in the cooperative effect.'</p>				
Type	mif:attributeList				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	mif:attribute+				
Children	mif:attribute				
Instance	<pre> <mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList> </pre>				
Source	<pre> <xs:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xs:annotation> <xs:documentation>Semi-structured additional description of the data contained in the cooperative effect.</xs:documentation> </xs:annotation> </xs:element> </pre>				

```
</xs:annotation>
</xs:elements>
```

Element mif:allostery / mif:allostericMoleculeRef

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Refers to the participant that is allosterically regulated.						
Diagram	<p>The diagram shows a UML class named 'allostericMoleculeRef' with a multiplicity of 1. It is connected to a 'xs:int' type via a directed association. A callout box below the class states: 'Refers to the participant that is allosterically regulated.' A callout box next to the association line states: 'Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...'. This indicates that the xs:int type is a derived integer type.</p>						
Type	xs:int						
Properties	<table> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	simple	minOccurs:	1	maxOccurs:	1
content:	simple						
minOccurs:	1						
maxOccurs:	1						
Source	<pre><xs:element name="allostericMoleculeRef" type="xs:int" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>Refers to the participant that is allosterically regulated.</xs:documentation> </xs:annotation> </xs:element></pre>						

Element mif:allostery / mif:allostericEffectRef

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Refers to the participant that elicits an allosteric response in an allosteric molecule upon binding to that molecule.						
Diagram	<p>The diagram shows a UML class named 'allostericEffectRef' with a multiplicity of 1. It is connected to a 'xs:int' type via a directed association. A callout box below the class states: 'Refers to the participant that elicits an allosteric response in an allosteric molecule upon binding to that molecule.' A callout box next to the association line states: 'Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...'. This indicates that the xs:int type is a derived integer type.</p>						
Type	xs:int						
Properties	<table> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	simple	minOccurs:	1	maxOccurs:	1
content:	simple						
minOccurs:	1						
maxOccurs:	1						
Source	<pre><xs:element name="allostericEffectRef" type="xs:int" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>Refers to the participant that elicits an allosteric response in an allosteric molecule upon binding to that molecule.</xs:documentation> </xs:annotation> </xs:element></pre>						

Element mif:allostery / mif:allostericModificationRef

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Refers to the modification (feature) that elicits an allosteric response in an allosteric molecule.						
Diagram	<p>The diagram shows a UML class named 'allostericModificationRef' with a multiplicity of 1. It is connected to a 'xs:int' type via a directed association. A callout box below the class states: 'Refers to the modification (feature) that elicits an allosteric response in an allosteric molecule.' A callout box next to the association line states: 'Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...'. This indicates that the xs:int type is a derived integer type.</p>						
Type	xs:int						
Properties	<table> <tr> <td>content:</td> <td>simple</td> </tr> <tr> <td>minOccurs:</td> <td>1</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	simple	minOccurs:	1	maxOccurs:	1
content:	simple						
minOccurs:	1						
maxOccurs:	1						
Source	<pre><xs:element name="allostericModificationRef" type="xs:int" minOccurs="1" maxOccurs="1"> <xs:annotation></pre>						

```

<xs:documentation>Refers to the modification (feature) that elicits an allosteric response in an allosteric molecule.</xs:documentation>
<xs:annotation>
</xs:element>

```

Element mif:allostery / mif:allostericMechanism

Namespace	http://psi.hupo.org/mi/mif300						
Annotations	Indicates the type of changes that occur in an allosteric molecule upon allosteric modification or binding of an allosteric effector and result in an allosteric response. This element is controlled by the PSI-MI controlled vocabulary "allosteric mechanism", root term id MI:1164.						
Diagram	<p>The diagram illustrates the UML class structure for the <code>mif:allostericMechanism</code> element. It is a <code>mif:cvType</code> object. It has two associations: one to <code>names</code> (Type <code>mif:names</code>) with a multiplicity of 1..1, and another to <code>xref</code> (Type <code>mif:xref</code>) with a multiplicity of 1..1. Both associations are marked with a plus sign (+) indicating they are required. A note below the associations states: "Reference to an external controlled vocabulary." A callout box for the <code>names</code> association is labeled "Name of the controlled vocabulary term." Another callout box for the <code>xref</code> association is labeled "Source of the controlled vocabulary term. E.g. the name of the CV and the term ID."</p>						
Type	<code>mif:cvType</code>						
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> <tr> <td>maxOccurs:</td> <td>1</td> </tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	1
content:	complex						
minOccurs:	0						
maxOccurs:	1						
Model	<code>mif:names</code> , <code>mif:xref</code>						
Children	<code>mif:names</code> , <code>mif:xref</code>						
Instance	<pre> <mif:allostericMechanism xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:allostericMechanism> </pre>						
Source	<pre> <xss:element name="allostericMechanism" type="mif:cvType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Indicates the type of changes that occur in an allosteric molecule upon allosteric modification or binding of an allosteric effector and result in an allosteric response. This element is controlled by the PSI-MI controlled vocabulary "allosteric mechanism", root term id MI:1164.</xs:documentation> </xs:annotation> </xss:element> </pre>						

Element mif:allostery / mif:allosteryType

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Indicates the chemical relationship between the ligands whose binding is allosterically coupled. This element is controlled by the PSI-MI controlled vocabulary "allostery type", root term id MI:1167.				
Diagram	<p>The diagram illustrates the UML class structure for the <code>mif:allosteryType</code> element. It is a <code>mif:cvType</code> object. It has two associations: one to <code>names</code> (Type <code>mif:names</code>) with a multiplicity of 1..1, and another to <code>xref</code> (Type <code>mif:xref</code>) with a multiplicity of 1..1. Both associations are marked with a plus sign (+) indicating they are required. A note below the associations states: "Reference to an external controlled vocabulary." A callout box for the <code>names</code> association is labeled "Name of the controlled vocabulary term." Another callout box for the <code>xref</code> association is labeled "Source of the controlled vocabulary term. E.g. the name of the CV and the term ID."</p>				
Type	<code>mif:cvType</code>				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				

	maxOccurs:	1
Model	mif:names , mif:xref	
Children	mif:names, mif:xref	
Instance	<mif:allosteryType xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:names>{1,1}</mif:names> <mif:xref>{1,1}</mif:xref> </mif:allosteryType>	
Source	<xs:element name="allosteryType" type="mif:cvType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Indicates the chemical relationship between the ligands whose binding is allosterically coupled. This element is controlled by the PSI-MI controlled vocabulary "allostery type", root term id MI:1167.</xs:documentation> </xs:annotation> </xs:element>	

Element mif:cooperativeEffectList / mif:preassembly

Namespace	http://psi.hupo.org/mi/mif300
Annotations	In case the cooperative mechanism is pre-assembly.
Diagram	<pre> classDiagram class mif:cooperativeEffectType { cooperativityEvidenceList affectedInteractionList cooperativeEffectOutcome cooperativeEffectResponse attributeList } mif:cooperativeEffectType < -- mif:preassembly mif:preassembly --> mif:cooperativeEffectType note over mif:preassembly: In case the cooperative mechanism is pre-assembly. </pre>
Type	mif:cooperativeEffectType
Properties	content: complex
Model	mif:cooperativityEvidenceList , mif:affectedInteractionList , mif:cooperativeEffectOutcome , mif:cooperativeEffectResponse{0,1} , mif:attributeList{0,1}
Children	mif:affectedInteractionList, mif:attributeList, mif:cooperativeEffectOutcome, mif:cooperativeEffectResponse, mif:cooperativityEvidenceList
Instance	<mif:preassembly xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:cooperativityEvidenceList>{1,1}</mif:cooperativityEvidenceList> <mif:affectedInteractionList>{1,1}</mif:affectedInteractionList> <mif:cooperativeEffectOutcome>{1,1}</mif:cooperativeEffectOutcome> <mif:cooperativeEffectResponse>{0,1}</mif:cooperativeEffectResponse> <mif:attributeList>{0,1}</mif:attributeList> </mif:preassembly>
Source	<xs:element name="preassembly" type="mif:cooperativeEffectType"> <xs:annotation> <xs:documentation>In case the cooperative mechanism is pre-assembly.</xs:documentation> </xs:annotation> </xs:element>

Element mif:abstractInteraction / mif:causalRelationshipList

Namespace	http://psi.hupo.org/mi/mif300
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Annotations	A list of causal relationships involving participants in this interaction				
Diagram	<p>The diagram shows a class named <code>mif:causalRelationshipList</code> with a multiplicity of <code>1..∞</code> associated with another class named <code>mif:causalRelationship</code>. A note below the association line states: "A list of causal relationships involving participants in this interaction". Another note to the right of the association line states: "The causal relationship between a participant source and a participant target." A general note at the bottom states: "A list of causal relationships involving participants in a specific interaction."</p>				
Type	<code>mif:causalRelationshipList</code>				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	<code>mif:causalRelationship+</code>				
Children	<code>mif:causalRelationship</code>				
Instance	<pre><mif:causalRelationshipList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:causalRelationship>{1,unbounded}</mif:causalRelationship> </mif:causalRelationshipList></pre>				
Source	<pre><xss:element name="causalRelationshipList" type="mif:causalRelationshipList" minOccurs="0"> <xss:annotation> <xss:documentation>A list of causal relationships involving participants in this interaction</xss:documentation> </xss:annotation> </xss:element></pre>				

Element `mif:abstractInteraction / mif:attributeList`

Namespace	<code>http://psi.hupo.org/mi/mif300</code>				
Diagram	<p>The diagram shows a class named <code>mif:attributeList</code> with a multiplicity of <code>1..∞</code> associated with another class named <code>mif:attribute</code>. A note below the association line states: "A list of additional attributes. Open tag-value list to allow the inclusion of additional data."</p>				
Type	<code>mif:attributeList</code>				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	<code>mif:attribute+</code>				
Children	<code>mif:attribute</code>				
Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList></pre>				
Source	<pre><xss:element name="attributeList" type="mif:attributeList" minOccurs="0"/></pre>				

Element `mif:entry / mif:attributeList`

Namespace	<code>http://psi.hupo.org/mi/mif300</code>				
Diagram	<p>The diagram shows a class named <code>mif:attributeList</code> with a multiplicity of <code>1..∞</code> associated with another class named <code>mif:attribute</code>. A note below the association line states: "A list of additional attributes. Open tag-value list to allow the inclusion of additional data."</p>				
Type	<code>mif:attributeList</code>				
Properties	<table border="1"> <tr> <td>content:</td> <td>complex</td> </tr> <tr> <td>minOccurs:</td> <td>0</td> </tr> </table>	content:	complex	minOccurs:	0
content:	complex				
minOccurs:	0				
Model	<code>mif:attribute+</code>				
Children	<code>mif:attribute</code>				

Instance	<pre><mif:attributeList xmlns:mif="http://psi.hupo.org/mi/mif300"> <mif:attribute name="" nameAc="">{1,unbounded}</mif:attribute> </mif:attributeList></pre>
Source	<pre><xss:element name="attributeList" type="mif:attributeList" minOccurs="0" /></pre>

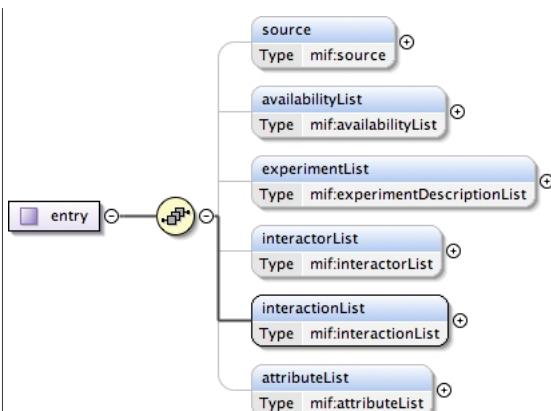
Complex Type(s)

Complex Type mif:entrySet

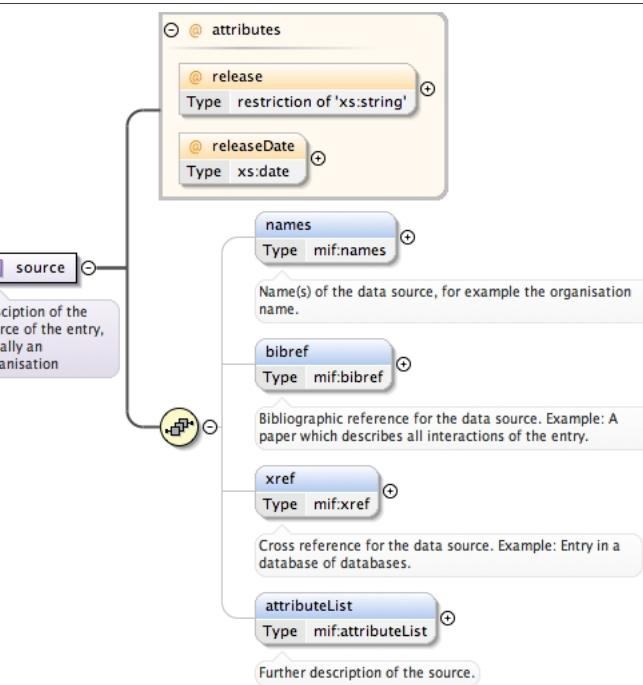
Namespace	http://psi.hupo.org/mi/mif300																														
Diagram	<pre> classDiagram class entrySet { @ attributes @ level @ version @ minorVersion entry } entry *--> entry note over entry: Describes one or more interactions as a self-contained unit. Multiple entries from different files can be concatenated... </pre>																														
Used by	Element mif:entrySet																														
Model	mif:entry+																														
Children	mif:entry																														
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>level</td> <td>xs:int</td> <td>3</td> <td></td> <td>required</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>PSI MI level</td> </tr> <tr> <td>minorVersion</td> <td>xs:int</td> <td>0</td> <td></td> <td>optional</td> </tr> <tr> <td>version</td> <td>xs:int</td> <td>0</td> <td></td> <td>required</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>PSI MI version within given level</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	level	xs:int	3		required					PSI MI level	minorVersion	xs:int	0		optional	version	xs:int	0		required					PSI MI version within given level
QName	Type	Fixed	Default	Use																											
level	xs:int	3		required																											
				PSI MI level																											
minorVersion	xs:int	0		optional																											
version	xs:int	0		required																											
				PSI MI version within given level																											
Source	<pre> <xss:complexType name="entrySet"> <xss:sequence> <xss:element name="entry" maxOccurs="unbounded" type="mif:entry"> <xss:annotation> <xss:documentation>Describes one or more interactions as a self-contained unit. Multiple entries from different files can be concatenated into a single entrySet.</xss:documentation> </xss:annotation> </xss:element> </xss:sequence> <xss:attribute name="level" type="xs:int" use="required" fixed="3"> <xss:annotation> <xss:documentation>PSI MI level</xss:documentation> </xss:annotation> </xss:attribute> <xss:attribute name="version" type="xs:int" use="required" fixed="0"> <xss:annotation> <xss:documentation>PSI MI version within given level</xss:documentation> </xss:annotation> </xss:attribute> <xss:attribute name="minorVersion" type="xs:int" use="optional" fixed="0"/> </xss:complexType> </pre>																														

Complex Type mif:entry

Namespace	http://psi.hupo.org/mi/mif300
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Diagram	
Used by	Element mif:entrySet/mif:entry
Model	mif:source{0,1} , mif:availabilityList{0,1} , mif:experimentList{0,1} , mif:interactorList{0,1} , mif:interactionList , mif:attributeList{0,1}
Children	mif:attributeList, mif:availabilityList, mif:experimentList, mif:interactionList, mif:interactorList, mif:source
Source	<pre><xss:complexType name="entry"> <xss:sequence> <xss:element name="source" type="mif:source" minOccurs="0"/> <xss:element name="availabilityList" type="mif:availabilityList" minOccurs="0"/> <xss:element name="experimentList" type="mif:experimentDescriptionList" minOccurs="0"/> <xss:element name="interactorList" type="mif:interactorList" minOccurs="0"/> <xss:element name="interactionList" type="mif:interactionList"/> <xss:element name="attributeList" type="mif:attributeList" minOccurs="0"/> </xss:sequence> </xss:complexType></pre>

Complex Type mif:source

Namespace	http://psi.hupo.org/mi/mif300										
Annotations	Description of the source of the entry, usually an organisation										
Diagram											
Used by	Element mif:entrySet/mif:entry										
Model	mif:names{0,1} , mif:bibref{0,1} , mif:xref{0,1} , mif:attributeList{0,1}										
Children	mif:attributeList, mif:bibref, mif:names, mif:xref										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>release</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>optional</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	release	restriction of xs:string			optional
QName	Type	Fixed	Default	Use							
release	restriction of xs:string			optional							

	QName	Type	Fixed	Default	Use
	releaseDate	xs:date			optional
Source	<pre> <xs:complexType name="source"> <xs:annotation> <xs:documentation>Description of the source of the entry, usually an organisation</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>Name(s) of the data source, for example the organisation name.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="bibref" type="mif:bibref" minOccurs="0"> <xs:annotation> <xs:documentation>Bibliographic reference for the data source. Example: A paper which describes all interactions of the entry.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>Cross reference for the data source. Example: Entry in a database of databases.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xs:annotation> <xs:documentation>Further description of the source.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> <xs:attribute name="release" use="optional"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="releaseDate" type="xs:date" use="optional"/> </xs:complexType></pre>				

Complex Type **mif:names**

Namespace	http://psi.hupo.org/mi/mif300	
Annotations	Names for an object.	
Diagram	<p>The diagram illustrates the structure of the mif:names complex type. It features a central class node labeled "names". Three associations extend from it: one to a node labeled "shortLabel" (multiplicity 0..1), another to "fullName" (multiplicity 0..1), and a third to "alias" (multiplicity 0..infinity). Each association is accompanied by a tooltip providing a detailed description of the role.</p> <ul style="list-style-type: none"> shortLabel: Type restriction of 'xs:string'. A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc. fullName: Type restriction of 'xs:string'. A full, detailed name or description of the object. Can be e.g. the full title of a publication, or the scientific name... alias: Type mif:alias. 0..∞ alias 	
Used by	Elements	mif:abstractFeature/mif:names, mif:abstractInteraction/mif:names, mif:abstractParticipant/mif:names, mif:bioSource/mif:names, mif:cvType/mif:names, mif:experimentDescription/mif:names, mif:feature/mif:names, mif:interaction/mif:names, mif:interactor/mif:names, mif:openCvType/mif:names, mif:participant/mif:names, mif:source/mif:names
Model	mif:shortLabel{0,1} , mif:fullName{0,1} , mif:alias*	
Children	mif:alias, mif:fullName, mif:shortLabel	
Source	<pre> <xs:complexType name="names"> <xs:annotation> <xs:documentation>Names for an object.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="shortLabel" minOccurs="0"> <xs:annotation> <xs:documentation>A short string, suitable to remember the object. Can be e.g. a gene name, the first author of a paper, etc.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType></pre>	

```

</xs:annotation>
<xs:simpleType>
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
  </xs:restriction>
</xs:simpleType>
</xs:element>
<xs:element name="fullName" minOccurs="0">
  <xs:annotation>
    <xs:documentation>A full, detailed name or description of the object. Can be e.g. the full title of a publication, or the scientific name of a species.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="alias" type="mif:alias" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>

```

Complex Type mif:alias

Namespace	http://psi.hupo.org/mi/mif300																			
Diagram	<p>The diagram illustrates the UML representation of the 'alias' complex type. It shows a class named 'alias' with a multiplicity of 0..1. An association line connects it to a base type 'xs:string'. Below the class, there are two attributes: '@ typeAc' and '@ type', both of which are restrictions of 'xs:string'. A callout box provides a detailed description of the 'xs:string' type as a built-in primitive type representing character strings in XML.</p>																			
Type	extension of xs:string																			
Used by	Element mif:names/mif:alias																			
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>type</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>optional</td> </tr> <tr> <td>typeAc</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>optional</td> </tr> </tbody> </table>					QName	Type	Fixed	Default	Use	type	restriction of xs:string			optional	typeAc	restriction of xs:string			optional
QName	Type	Fixed	Default	Use																
type	restriction of xs:string			optional																
typeAc	restriction of xs:string			optional																
Source	<pre> <xs:complexType name="alias"> <xs:simpleContent> <xs:extension base="xs:string"> <xs:attribute name="typeAc" use="optional"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="type" use="optional"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> </xs:extension> </xs:simpleContent> </xs:complexType> </pre>																			

Complex Type mif:bibref

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Bibliographic reference.

Diagram	<pre> classDiagram class bibref class xref { <<Bibliographic reference in external database, usually PubMed.>> } class attributeList { <<Additional description of bibliographic reference such as publication title, authors, journal, publication date...>> } class attributeList { <<Alternative description of bibliographic reference if no external database entry is available.>> } bibref "1" -- "1" xref : bibref "1" -- "1" attributeList : bibref "1" -- "1" attributeList : </pre>
Used by	Elements mif:abstractConfidence/mif:bibref, mif:abstractParameter/mif:bibref, mif:evidenceType/mif:bibref, mif:experimentDescription/mif:bibref, mif:source/mif:bibref
Model	(mif:xref , mif:attributeList{0,1}) (mif:attributeList)
Children	mif:attributeList, mif:xref
Source	<pre> <x:complexType name="bibref"> <x:annotation> <x:documentation>Bibliographic reference.</x:documentation> </x:annotation> <x:choice minOccurs="1" maxOccurs="1"> <x:sequence> <x:element name="xref" type="mif:xref" minOccurs="1" maxOccurs="1"> <x:annotation> <x:documentation>Bibliographic reference in external database, usually PubMed.</x:documentation> </x:annotation> </x:element> <x:element name="attributeList" type="mif:attributeList" minOccurs="0" maxOccurs="1"> <x:annotation> <x:documentation>Additional description of bibliographic reference such as publication title, authors, journal, publication date...</x:documentation> </x:annotation> </x:element> </x:sequence> <x:sequence> <x:element name="attributeList" type="mif:attributeList" minOccurs="1" maxOccurs="1"> <x:annotation> <x:documentation>Alternative description of bibliographic reference if no external database entry is available.</x:documentation> </x:annotation> </x:element> </x:sequence> </x:choice> </x:complexType> </pre>

Complex Type mif:xref

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into this structure, but into the bibRef element where possible.
Diagram	<pre> classDiagram class xref class primaryRef { <<Primary reference to an external database.>> } class secondaryRef { <<Further external objects describing the object.>> } xref "1" -- "1" primaryRef : xref "0..oo" -- "1" secondaryRef : </pre>
Used by	Elements mif:abstractFeature/mif:xref, mif:abstractInteraction/mif:xref, mif:abstractParticipant/mif:xref, mif:bibref/mif:xref, mif:cvType/mif:xref, mif:experimentDescription/mif:xref, mif:feature/mif:xref, mif:interaction/mif:xref, mif:interactor/mif:xref, mif:openCvType/mif:xref, mif:participant/mif:xref, mif:resultingSequenceType/mif:xref, mif:source/mif:xref
Model	mif:primaryRef , mif:secondaryRef*

Children	mif:primaryRef, mif:secondaryRef
Source	<pre> <xss:complexType name="xref"> <xss:annotation> <xss:documentation>Crossreference to an external database. Crossreferences to literature databases, e.g. PubMed, should not be put into this structure, but into the bibRef element where possible.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="primaryRef" type="mif:dbReference"> <xss:annotation> <xss:documentation>Primary reference to an external database.</xss:documentation> </xss:annotation> </xss:element> <xss:element name="secondaryRef" type="mif:dbReference" minOccurs="0" maxOccurs="unbounded"> <xss:annotation> <xss:documentation>Further external objects describing the object.</xss:documentation> </xss:annotation> </xss:element> </xss:sequence> </xss:complexType> </pre>

Complex Type mif:dbReference

Namespace	http://psi.hupo.org/mi/mif300										
Annotations	Refers to a unique object in an external database.										
Diagram	<p>The diagram illustrates the structure of the mif:dbReference complex type. It starts with a central box labeled "dbReference" which has a tooltip: "Refers to a unique object in an external database." A line connects this box to a larger box containing seven attributes, each with a tooltip:</p> <ul style="list-style-type: none"> @ db: Type restriction of 'xs:string'. Description: Name of the external database. Taken from the controlled vocabulary of databases. @ dbAc: Type restriction of 'xs:string'. Description: Accession number of the database in the database CV. This element is controlled by the PSI-MI controlled vocabulary... @ id: Type restriction of 'xs:string'. Description: Primary identifier of the object in the external database, e.g. UniProt accession number. @ secondary: Type restriction of 'xs:string'. Description: Secondary identifier of the object in the external database, e.g. UniProt ID. @ version: Type restriction of 'xs:string'. Description: The version number of the object in the external database. @ refType: Type restriction of 'xs:string'. Description: Reference type, e.g. "identity" if this reference refers to an identical object in the external database, or... @ refTypeAc: Type restriction of 'xs:string'. Description: Reference type accession number from the CV of reference types. This element is controlled by the PSI-MI controlled... <p>Below these attributes is a box labeled "attributeList" with a tooltip: "Type mif:attributeList".</p>										
Used by	Elements mif:xref/mif:primaryRef, mif:xref/mif:secondaryRef										
Model	mif:attributeList										
Children	mif:attributeList										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>db</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	db	restriction of xs:string			required
QName	Type	Fixed	Default	Use							
db	restriction of xs:string			required							

QName	Type	Fixed	Default	Use
Name of the external database. Taken from the controlled vocabulary of databases.				
dbAc	restriction of xs:string			optional
Accession number of the database in the database CV. This element is controlled by the PSI-MI controlled vocabulary "database citation", root term id MI:0444.				
id	restriction of xs:string			required
Primary identifier of the object in the external database, e.g. UniProt accession number.				
refType	restriction of xs:string			optional
Reference type, e.g. "identity" if this reference refers to an identical object in the external database, or "see-also" for additional information. Controlled by CV.				
refTypeAc	restriction of xs:string			optional
Reference type accession number from the CV of reference types. This element is controlled by the PSI-MI controlled vocabulary "xref type", root term id MI:0353.				
secondary	restriction of xs:string			optional
Secondary identifier of the object in the external database, e.g. UniProt ID.				
version	restriction of xs:string			optional
The version number of the object in the external database.				
Source	<pre> <xs:complexType name="dbReference"> <xs:annotation> <xs:documentation>Refers to a unique object in an external database.</xs:documentation> </xs:annotation> <xs:sequence minOccurs="0"> <xs:element name="attributeList" type="mif:attributeList"/> </xs:sequence> <xs:attribute name="db" use="required"> <xs:annotation> <xs:documentation>Name of the external database. Taken from the controlled vocabulary of databases.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="dbAc" use="optional"> <xs:annotation> <xs:documentation>Accession number of the database in the database CV. This element is controlled by the PSI-MI controlled vocabulary "database citation", root term id MI:0444.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="id" use="required"> <xs:annotation> <xs:documentation>Primary identifier of the object in the external database, e.g. UniProt accession number.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="secondary" use="optional"> <xs:annotation> <xs:documentation>Secondary identifier of the object in the external database, e.g. UniProt ID.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> </pre>			

```

</xs:attribute>
<xs:attribute name="version" use="optional">
  <xs:annotation>
    <xs:documentation>The version number of the object in the external database.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:attribute>
<xs:attribute name="refType" use="optional">
  <xs:annotation>
    <xs:documentation>Reference type, e.g. "identity" if this reference refers to an identical object in the external database, or "see-also" for additional information. Controlled by CV.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:attribute>
<xs:attribute name="refTypeAc" use="optional">
  <xs:annotation>
    <xs:documentation>Reference type accession number from the CV of reference types. This element is controlled by the PSI-MI controlled vocabulary "xref type", root term id MI:0353.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:attribute>
</xs:complexType>

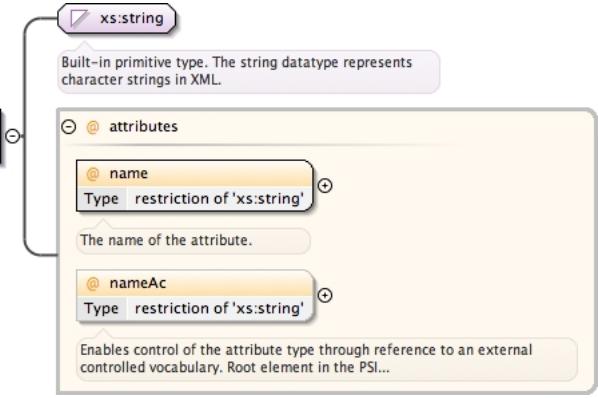
```

Complex Type mif:attributeList

Namespace	http://psi.hupo.org/mi/mif300	
Annotations	A list of additional attributes. Open tag-value list to allow the inclusion of additional data.	
Diagram	<p>A list of additional attributes. Open tag-value list to allow the inclusion of additional data.</p>	
Used by	Elements	mif:abstractFeature/mif:attributeList, mif:abstractInteraction/mif:attributeList, mif:abstractParticipant/mif:attributeList, mif:bibref/mif:attributeList, mif:cooperativeEffectType/mif:attributeList, mif:dbReference/mif:attributeList, mif:entry/mif:attributeList, mif:experimentDescription/mif:attributeList, mif:feature/mif:attributeList, mif:interaction/mif:attributeList, mif:interactor/mif:attributeList, mif:openCvType/mif:attributeList, mif:participant/mif:attributeList, mif:source/mif:attributeList
Model	mif:attribute+	
Children	mif:attribute	
Source	<pre> <xs:complexType name="attributeList"> <xs:annotation> <xs:documentation>A list of additional attributes. Open tag-value list to allow the inclusion of additional data.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="attribute" type="mif:attribute" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType> </pre>	

Complex Type mif:attribute

Namespace	http://psi.hupo.org/mi/mif300
-----------	-------------------------------

Diagram																										
Type	extension of xs:string																									
Used by	Element mif:attributeList/mif:attribute																									
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td>name</td><td>restriction of xs:string</td><td></td><td></td><td>required</td></tr> <tr> <td></td><td>The name of the attribute.</td><td></td><td></td><td></td></tr> <tr> <td>nameAc</td><td>restriction of xs:string</td><td></td><td></td><td>optional</td></tr> <tr> <td></td><td>Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.</td><td></td><td></td><td></td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	name	restriction of xs:string			required		The name of the attribute.				nameAc	restriction of xs:string			optional		Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.			
QName	Type	Fixed	Default	Use																						
name	restriction of xs:string			required																						
	The name of the attribute.																									
nameAc	restriction of xs:string			optional																						
	Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.																									
Source	<pre> <xs:complexType name="attribute"> <xs:simpleContent> <xs:extension base="xs:string"> <xs:attribute name="name" use="required"> <xs:annotation> <xs:documentation>The name of the attribute.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="nameAc" use="optional"> <xs:annotation> <xs:documentation>Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> </xs:extension> </xs:simpleContent> </xs:complexType> </pre>																									

Complex Type mif:availabilityList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Data availability statements, for example copyrights
Diagram	
Used by	Element mif:entry/mif:availabilityList
Model	mif:availability*
Children	mif:availability
Source	<pre> <xs:complexType name="availabilityList"> <xs:annotation> <xs:documentation>Data availability statements, for example copyrights</xs:documentation> </xs:annotation> </pre>

```

</xs:annotation>
<xs:sequence>
  <xs:element name="availability" type="mif:availability" minOccurs="0" maxOccurs="unbounded">
    <xs:annotation>
      <xs:documentation>Describes data availability, e.g. through a copyright statement. If no availability is given, the data is assumed to be freely available.</xs:documentation>
    </xs:annotation>
  </xs:element>
</xs:sequence>
</xs:complexType>

```

Complex Type mif:availability

Namespace	http://psi.hupo.org/mi/mif300										
Annotations	A text describing the availability of data, e.g. a copyright statement.										
Diagram											
Type	extension of xs:string										
Used by	Elements mif:availabilityList/mif:availability, mif:interaction/mif:availability										
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td>id</td><td>xs:int</td><td></td><td></td><td>required</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required
QName	Type	Fixed	Default	Use							
id	xs:int			required							
Source	<pre> <xs:complexType name="availability"> <xs:annotation> <xs:documentation>A text describing the availability of data, e.g. a copyright statement.</xs:documentation> </xs:annotation> <xs:simpleContent> <xs:extension base="xs:string"> <xs:attribute name="id" type="xs:int" use="required"/> </xs:extension> </xs:simpleContent> </xs:complexType> </pre>										

Complex Type mif:experimentDescriptionList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	All experiments in which the interactions of this entry have been determined
Diagram	
Used by	Element mif:entry/mif:experimentList
Model	mif:experimentDescription*
Children	mif:experimentDescription
Source	<pre> <xs:complexType name="experimentDescriptionList"> <xs:annotation> <xs:documentation>All experiments in which the interactions of this entry have been determined</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="experimentDescription" type="mif:experimentDescription" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Describes one set of experimental parameters, usually associated with a single publication.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </pre>

Complex Type `mif:experimentDescription`

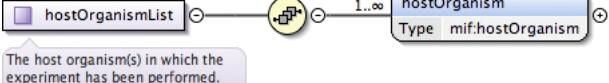
Namespace	<code>http://psi.hupo.org/mi/mif300</code>														
Annotations	Describes one set of experimental parameters.														
Diagram	<pre> classDiagram class experimentDescription { @id xs:int names mif:names bibref mif:bibref xref mif:xref hostOrganismList mif:hostOrganismList interactionDetectionMethod mif:cvType participantIdentificationMethod mif:cvType featureDetectionMethod mif:cvType confidenceList mif:confidenceList variableParameterList mif:variableParameterList attributeList mif:attributeList } experimentDescription < -- experimentDescriptionList experimentDescription < -- experimentList experimentDescription < -- experimentDescription </pre> <p>The diagram illustrates the structure of the <code>mif:experimentDescription</code> complex type. It starts with a main element <code>experimentDescription</code> which has the following attributes:</p> <ul style="list-style-type: none"> <code>@id</code> (Type: <code>xs:int</code>) - All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated,... <code>names</code> (Type: <code>mif:names</code>) <code>bibref</code> (Type: <code>mif:bibref</code>) - Publication describing the experiment. <code>xref</code> (Type: <code>mif:xref</code>) - Refers to external database description of the experiment. <code>hostOrganismList</code> (Type: <code>mif:hostOrganismList</code>) <code>interactionDetectionMethod</code> (Type: <code>mif:cvType</code>) - Experimental method to determine the interaction. This element is controlled by the PSI-MI controlled vocabulary... <code>participantIdentificationMethod</code> (Type: <code>mif:cvType</code>) - Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI... <code>featureDetectionMethod</code> (Type: <code>mif:cvType</code>) - Experimental method to determine the features of interactors. If this element is filled it is assumed to apply to all... <code>confidenceList</code> (Type: <code>mif:confidenceList</code>) - Confidence in this experiment. Usually a statistical measure. <code>variableParameterList</code> (Type: <code>mif:variableParameterList</code>) - A list of variable parameters used in this experiment - eg - variable concentration of a specific drug. <code>attributeList</code> (Type: <code>mif:attributeList</code>) - Semi-structured additional description of the experiment. 														
Used by	Elements: <code>mif:experimentDescriptionList/mif:experimentDescription</code> , <code>mif:experimentList/mif:experimentDescription</code>														
Model	<code>mif:names{0,1}</code> , <code>mif:bibref</code> , <code>mif:xref{0,1}</code> , <code>mif:hostOrganismList{0,1}</code> , <code>mif:interactionDetectionMethod</code> , <code>mif:participantIdentificationMethod{0,1}</code> , <code>mif:featureDetectionMethod{0,1}</code> , <code>mif:confidenceList{0,1}</code> , <code>mif:variableParameterList{0,1}</code> , <code>mif:attributeList{0,1}</code>														
Children	<code>mif:attributeList</code> , <code>mif:bibref</code> , <code>mif:confidenceList</code> , <code>mif:featureDetectionMethod</code> , <code>mif:hostOrganismList</code> , <code>mif:interactionDetectionMethod</code> , <code>mif:names</code> , <code>mif:participantIdentificationMethod</code> , <code>mif:variableParameterList</code> , <code>mif:xref</code>														
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td><code>id</code></td> <td><code>xs:int</code></td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>id</code>	<code>xs:int</code>			required	All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.			
QName	Type	Fixed	Default	Use											
<code>id</code>	<code>xs:int</code>			required											
Source	<code><xss:complexType name="experimentDescription"></code>														

```

<xs:annotation>
  <xs:documentation>Describes one set of experimental parameters.</xs:documentation>
</xs:annotation>
<xs:sequence>
  <xs:element name="names" type="mif:names" minOccurs="0"/>
  <xs:element name="bibref" type="mif:bibref">
    <xs:annotation>
      <xs:documentation>Publication describing the experiment.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="xref" type="mif:xref" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Refers to external database description of the experiment.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="hostOrganismList" type="mif:hostOrganismList" minOccurs="0"/>
  <xs:element name="interactionDetectionMethod" type="mif:cvType">
    <xs:annotation>
      <xs:documentation>Experimental method to determine the interaction. This element is controlled by the PSI-MI controlled vocabulary "interaction detection method", root term id MI:0001.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="participantIdentificationMethod" type="mif:cvType" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI controlled vocabulary "participant identification method", root term id MI:0002.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="featureDetectionMethod" type="mif:cvType" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Experimental method to determine the features of interactors. If this element is filled it is assumed to apply to all features described in the experiment. But can be overridden by the featureDetectionMethod given in the individual feature. This element is controlled by the PSI-MI controlled vocabulary "feature detection method", root term id MI:0003.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="confidenceList" type="mif:confidenceList" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Confidence in this experiment. Usually a statistical measure.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="variableParameterList" type="mif:variableParameterList" minOccurs="0">
    <xs:annotation>
      <xs:documentation>A list of variable parameters used in this experiment - eg - variable concentration of a specific drug.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="attributeList" type="mif:attributeList" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Semi-structured additional description of the experiment.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:attribute name="id" type="xs:int" use="required">
    <xs:annotation>
      <xs:documentation>All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>

```

Complex Type mif:hostOrganismList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The host organism(s) in which the experiment has been performed.
Diagram	 <p>The host organism(s) in which the experiment has been performed.</p>
Used by	Elements mif:experimentDescription/mif:hostOrganismList, mif:participant/mif:hostOrganismList
Model	mif:hostOrganism+

Children	mif:hostOrganism
Source	<pre><xs:complexType name="hostOrganismList"> <xs:annotation> <xs:documentation>The host organism(s) in which the experiment has been performed.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="hostOrganism" type="mif:hostOrganism" maxOccurs="unbounded" /> </xs:sequence> </xs:complexType></pre>

Complex Type mif:hostOrganism

Namespace	http://psi.hupo.org/mi/mif300										
Diagram	<pre> classDiagram class hostOrganism { <<mif:bioSource>> ncbiTaxId : xs:int names : mif:names cellType : mif:openCvType compartment : mif:openCvType tissue : mif:openCvType experimentRefList : mif:experimentRefList } hostOrganism < -- bioSource </pre>										
Type	extension of mif:bioSource										
Type hierarchy	<ul style="list-style-type: none"> mif:bioSource mif:hostOrganism 										
Used by	Element mif:hostOrganismList/mif:hostOrganism										
Model	mif:names{0,1} , mif:cellType{0,1} , mif:compartment{0,1} , mif:tissue{0,1} , mif:experimentRefList{0,1}										
Children	mif:cellType, mif:compartment, mif:experimentRefList, mif:names, mif:tissue										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>ncbiTaxId</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	ncbiTaxId	xs:int			required
QName	Type	Fixed	Default	Use							
ncbiTaxId	xs:int			required							
Source	<pre><xs:complexType name="hostOrganism"> <xs:complexContent> <xs:extension base="mif:bioSource"> <xs:sequence minOccurs="0"> <xs:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"/> </xs:sequence> </xs:extension> </xs:complexContent> </xs:complexType></pre>										

Complex Type mif:bioSource

Namespace	http://psi.hupo.org/mi/mif300
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Annotations	Describes the biological source of an object, in simple form only the NCBI taxid.										
Diagram	<pre> classDiagram class bioSource { @ncbiTaxId names cellType compartment tissue } @ncbiTaxId { Type xs:int } names { Type mif:names } cellType { Type mif:openCvType } compartment { Type mif:openCvType } tissue { Type mif:openCvType } </pre> <p>The diagram shows the <code>bioSource</code> element with its attributes and their types. The <code>ncbiTaxId</code> attribute is of type <code>xs:int</code>. The <code>names</code>, <code>cellType</code>, <code>compartment</code>, and <code>tissue</code> attributes are all of type <code>mif:openCvType</code>. Each attribute has a detailed description below it.</p>										
Used by	Complex Type mif:hostOrganism Elements mif:abstractInteraction/mif:organism, mif:interactor/mif:organism										
Model	mif:names{0,1} , mif:cellType{0,1} , mif:compartment{0,1} , mif:tissue{0,1}										
Children	mif:cellType, mif:compartment, mif:names, mif:tissue										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td><code>ncbiTaxId</code></td> <td><code>xs:int</code></td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>ncbiTaxId</code>	<code>xs:int</code>			required
QName	Type	Fixed	Default	Use							
<code>ncbiTaxId</code>	<code>xs:int</code>			required							
Source	<pre> <xs:complexType name="bioSource"> <xs:annotation> <xs:documentation>Describes the biological source of an object, in simple form only the NCBI taxid.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>The names of the organism. The short label should be a common name if it exists. The full name should be the full name of the species (i.e. genus species).</xs:documentation> </xs:annotation> </xs:element> <xs:element name="cellType" type="mif:openCvType" minOccurs="0"> <xs:annotation> <xs:documentation>Description of the cell type. Currently no species-independent controlled vocabulary for cell types is available, therefore the choice of reference database(s) is open to the data provider.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="compartment" type="mif:openCvType" minOccurs="0"> <xs:annotation> <xs:documentation>The subcellular compartment of the object. It is strongly recommended to refer to the Gene Ontology cellular component in this element.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="tissue" type="mif:openCvType" minOccurs="0"> <xs:annotation> <xs:documentation>Description of the source tissue. Currently no species-independent controlled vocabulary for tissues is available, therefore the choice of reference database(s) is open to the data provider.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> <xs:attribute name="ncbiTaxId" type="xs:int" use="required"/> </xs:complexType> </pre>										

Complex Type mif:openCvType

Namespace	http://psi.hupo.org/mi/mif300	
Annotations	Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external definition is available.	
Diagram	<p>The diagram illustrates the structure of the <code>openCvType</code> complex type. It contains three elements:</p> <ul style="list-style-type: none"> names (Type: <code>mif:names</code>): This contains the controlled vocabulary terms, as a short and optionally as a long form. xref (Type: <code>mif:xref</code>): Refers to the term of the controlled vocabulary in an external database. attributeList (Type: <code>mif:attributeList</code>): If no suitable external controlled vocabulary is available, this attributeList can be used to describe the term.... 	
Used by	Elements	<code>mif:abstractConfidence/mif:type</code> , <code>mif:bioSource/mif:cellType</code> , <code>mif:bioSource/mif:compartment</code> , <code>mif:bioSource/mif:tissue</code> , <code>mif:causalRelationship/mif:causalityStatement</code> , <code>mif:confidenceBase/mif:unit</code> , <code>mif:variableParameter/mif:unit</code>
Model	<code>mif:names</code> , <code>mif:xref{0,1}</code> , <code>mif:attributeList{0,1}</code>	
Children	<code>mif:attributeList</code> , <code>mif:names</code> , <code>mif:xref</code>	
Source	<pre><xss:complexType name="openCvType"> <xss:annotation> <xss:documentation>Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external definition is available.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="names" type="mif:names"> <xss:annotation> <xss:documentation>This contains the controlled vocabulary terms, as a short and optionally as a long form.</xss:documentation> </xss:annotation> </xss:element> <xss:element name="xref" type="mif:xref" minOccurs="0"> <xss:annotation> <xss:documentation>Refers to the term of the controlled vocabulary in an external database.</xss:documentation> </xss:annotation> </xss:element> <xss:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xss:annotation> <xss:documentation>If no suitable external controlled vocabulary is available, this attributeList can be used to describe the term. Example: Attribute name: Mouse atlas tissue name; attribute value: spinal cord, day 30.</xss:documentation> </xss:annotation> </xss:element> </xss:sequence> </xss:complexType></pre>	

Complex Type mif:experimentRefList

Namespace	http://psi.hupo.org/mi/mif300	
Annotations	Refers to a list of experiments within the same entry.	
Diagram	<p>The diagram illustrates the structure of the <code>experimentRefList</code> complex type. It consists of a list of <code>experimentRef</code> elements, indicated by the multiplicity <code>1..∞</code>.</p>	
Used by	Elements	<code>mif:confidence/mif:experimentRefList</code> , <code>mif:experimentalInteractor/mif:experimentRefList</code> , <code>mif:experimentalPreparation/mif:experimentRefList</code> , <code>mif:experimentalRole/mif:experimentRefList</code> , <code>mif:feature/mif:experimentRefList</code> , <code>mif:hostOrganism/mif:experimentRefList</code> , <code>mif:inferredInteraction/mif:experimentRefList</code> , <code>mif:experimentRefList</code> , <code>mif:participantIdentificationMethod/mif:experimentRefList</code>
Model	<code>mif:experimentRef+</code>	
Children	<code>mif:experimentRef</code>	
Source	<pre><xss:complexType name="experimentRefList"></pre>	

```

<xs:annotation>
  <xs:documentation>Refers to a list of experiments within the same entry.</xs:documentation>
</xs:annotation>
<xs:sequence>
  <xs:element name="experimentRef" type="xs:int" maxOccurs="unbounded">
    <xs:annotation>
      <xs:documentation>References an experiment already present in this entry.</xs:documentation>
    </xs:annotation>
  </xs:element>
</xs:sequence>
</xs:complexType>

```

Complex Type mif:cvType

Namespace	http://psi.hupo.org/mi/mif300	
Annotations	Reference to an external controlled vocabulary.	
Diagram	<p>cvType</p> <p>names Type mif:names</p> <p>xref Type mif:xref</p> <p>Reference to an external controlled vocabulary.</p> <p>Name of the controlled vocabulary term.</p> <p>Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.</p>	
Used by	Elements	mif:abstractFeature/mif:featureRole, mif:abstractFeature/mif:featureType, mif:abstractInteraction/mif:evidenceType, mif:abstractInteraction/mif:interactionType, mif:abstractInteraction/mif:interactorType, mif:abstractInteractorCandidateList/mif:moleculeSetType, mif:abstractParticipant/mif:biologicalRole, mif:allostery/mif:allostericMechanism, mif:allostery/mif:allosteryType, mif:baseLocation/mif:endStatus, mif:baseLocation/mif:startStatus, mif:cooperativeEffectType/mif:cooperativeEffectOutcome, mif:cooperativeEffectType/mif:cooperativeEffectResponse, mif:evidenceType/mif:evidenceMethodList/mif:evidenceMethod, mif:experimentDescription/mif:featureDetectionMethod, mif:experimentDescription/mif:interactionDetectionMethod, mif:experimentDescription/mif:participantIdentificationMethod, mif:feature/mif:featureDetectionMethod, mif:feature/mif:featureRole, mif:feature/mif:featureType, mif:interaction/mif:interactionType, mif:interactor/mif:interactorType, mif:interactorCandidateList/mif:moleculeSetType, mif:participant/mif:biologicalRole
	Complex Types	mif:experimentalPreparation, mif:experimentalRole, mif:participantIdentificationMethod
Model	mif:names , mif:xref	
Children	mif:names, mif:xref	
Source	<pre> <xs:complexType name="cvType"> <xs:annotation> <xs:documentation>Reference to an external controlled vocabulary.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="names" type="mif:names"> <xs:annotation> <xs:documentation>Name of the controlled vocabulary term.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="xref" type="mif:xref"> <xs:annotation> <xs:documentation>Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </pre>	

Complex Type mif:confidenceList

Namespace	http://psi.hupo.org/mi/mif300	
Annotations	A list of confidence values.	
Diagram	<p>confidenceList</p> <p>confidence Type mif:confidence</p> <p>A list of confidence values.</p>	
Used by	Elements	mif:experimentDescription/mif:confidenceList, mif:interaction/mif:confidenceList, mif:participant/mif:confidenceList

Model	mif:confidence+
Children	mif:confidence
Source	<pre><xss:complexType name="confidenceList"> <xss:annotation> <xss:documentation>A list of confidence values.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="confidence" type="mif:confidence" maxOccurs="unbounded" /> </xss:sequence> </xss:complexType></pre>

Complex Type mif:confidence

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<p>A confidence value.</p> <p>Each experiment might assign a different confidence to this object. If no experimentRef is given, it is assumed this...</p>
Type	extension of mif:confidenceBase
Type hierarchy	<ul style="list-style-type: none"> mif:confidenceBase mif:confidence
Used by	Element mif:confidenceList/mif:confidence
Model	mif:unit , mif:value , mif:experimentRefList{0,1}
Children	mif:experimentRefList, mif:unit, mif:value
Source	<pre><xss:complexType name="confidence"> <xss:complexContent> <xss:extension base="mif:confidenceBase"> <xss:sequence minOccurs="0"> <xss:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"> <xss:annotation> <xss:documentation>Each experiment might assign a different confidence to this object. If no experimentRef is given, it is assumed this confidence refers to all experiments linked to the object.</xss:documentation> </xss:annotation> </xss:element> </xss:sequence> </xss:extension> </xss:complexContent> </xss:complexType></pre>

Complex Type mif:confidenceBase

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A confidence value.
Diagram	<p>A confidence value.</p>
Used by	Complex Type mif:confidence
Model	mif:unit , mif:value
Children	mif:unit, mif:value
Source	<pre><xss:complexType name="confidenceBase"> <xss:annotation></pre>

```

<xs:documentation>A confidence value.</xs:documentation>
</xs:annotation>
<xs:sequence>
  <xs:element name="unit" type="mif:openCvType"/>
  <xs:element name="value">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:minLength value="1"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
</xs:sequence>
</xs:complexType>

```

Complex Type mif:variableParameterList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A list of variable parameters used in this experiment - eg - variable concentration of a specific drug.
Diagram	<pre> classDiagram class variableParameterList { <<A list of variable parameters used in this experiment - eg - variable concentration of a specific drug.>> } class variableParameter { <<Type mif:variableParameter>> } variableParameterList "1..∞" o-- "1..∞" variableParameter </pre> <p>A list of variable parameters used in this experiment - eg - variable concentration of a specific drug.</p>
Used by	Element mif:experimentDescription/mif:variableParameterList
Model	mif:variableParameter+
Children	mif:variableParameter
Source	<pre> <xs:complexType name="variableParameterList"> <xs:annotation> <xs:documentation>A list of variable parameters used in this experiment - eg - variable concentration of a specific drug.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="variableParameter" type="mif:variableParameter" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:variableParameter

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Describes one variable parameter and its values in this experiment - eg - variable concentration of a specific drug.
Diagram	<pre> classDiagram class variableParameter { <<Describes one variable parameter and its values in this experiment - eg - variable concentration of a specific drug.>> } class description { <<Type xs:string>> } class unit { <<Type mif:openCvType>> } class variableValueList { <<Type mif:variableValueList>> } variableParameter --o description variableParameter --o unit variableParameter --o variableValueList </pre> <p>Free description of the variable parameter (such as cell cycle, PMA treatment, ...).</p> <p>Unit of the variable parameter values.</p> <p>List of the different values for this specific variableParameter in this experiment.</p>
Used by	Element mif:variableParameterList/mif:variableParameter
Model	mif:description , mif:unit{0,1} , mif:variableValueList
Children	mif:description, mif:unit, mif:variableValueList
Source	<pre> <xs:complexType name="variableParameter"> <xs:annotation> <xs:documentation>Describes one variable parameter and its values in this experiment - eg - variable concentration of a specific drug.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="description" type="xs:string"> <xs:annotation> <xs:documentation>Free description of the variable parameter (such as cell cycle, PMA treatment, ...).</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </pre>

```

</xs:annotation>
</xs:element>
<xs:element name="unit" type="mif:openCvType" minOccurs="0">
    <xs:annotation>
        <xs:documentation>Unit of the variable parameter values.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="variableValueList" type="mif:variableValueList">
    <xs:annotation>
        <xs:documentation>List of the different values for this specific variableParameter in this experiment.</xs:documentation>
    </xs:annotation>
    <xs:sequence>
        </xs:sequence>
    </xs:complexType>

```

Complex Type mif:variableValueList

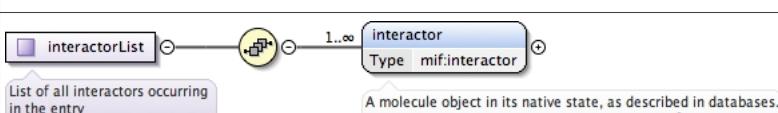
Namespace	http://psi.hupo.org/mi/mif300
Annotations	List of the different values for a specific variableParameter in a specific experiment.
Diagram	<p>variableValueList</p> <p>variableValue Type mif:variableValue</p> <p>List of the different values for a specific variableParameter in a specific experiment.</p>
Used by	Element mif:variableParameter/mif:variableValueList
Model	mif:variableValue+
Children	mif:variableValue
Source	<pre> <xs:complexType name="variableValueList"> <xs:annotation> <xs:documentation>List of the different values for a specific variableParameter in a specific experiment.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="variableValue" type="mif:variableValue" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:variableValue

Namespace	http://psi.hupo.org/mi/mif300										
Annotations	A value for a specific variableParameter in a specific experiment - eg - the concentration of a specific drug.										
Diagram	<p>variableValue</p> <p>@ attributes</p> <p>@ id Type xs:int</p> <p>Unique numerical identifier for this variableValue so an interaction can refer to it later. The id has to be unique...</p> <p>@ order Type xs:int</p> <p>Optional numerical order attribute to give an explicit order for a variableValue in the variableValueList.</p> <p>variableValue Type xs:string</p> <p>A value for a specific variableParameter in a specific experiment - eg - the concentration of a specific drug.</p> <p>value Type xs:string</p> <p>Free description of the variable value. It can be numerical value or qualitative value depending on the...</p>										
Used by	Element mif:variableValueList/mif:variableValue										
Model	mif:value										
Children	mif:value										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required
QName	Type	Fixed	Default	Use							
id	xs:int			required							

QName	Type	Fixed	Default	Use
	Unique numerical identifier for this variableValue so an interaction can refer to it later. The id has to be unique within a same entry.			
order	xs:int			optional
	Optional numerical order attribute to give an explicit order for a variableValue in the variableValueList.			
Source	<pre><xs:complexType name="variableValue"> <xs:annotation> <xs:documentation>A value for a specific variableParameter in a specific experiment - eg - the concentration of a specific drug.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="value" type="xs:string"> <xs:annotation> <xs:documentation>Free description of the variable value. It can be numerical value or qualitative value depending on the variableParameter.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> <xs:attribute name="id" type="xs:int" use="required"> <xs:annotation> <xs:documentation>Unique numerical identifier for this variableValue so an interaction can refer to it later. The id has to be unique within a same entry.</xs:documentation> </xs:annotation> </xs:attribute> <xs:attribute name="order" type="xs:int" use="optional"> <xs:annotation> <xs:documentation>Optional numerical order attribute to give an explicit order for a variableValue in the variableValueList.</xs:documentation> </xs:annotation> </xs:attribute> </xs:complexType></pre>			

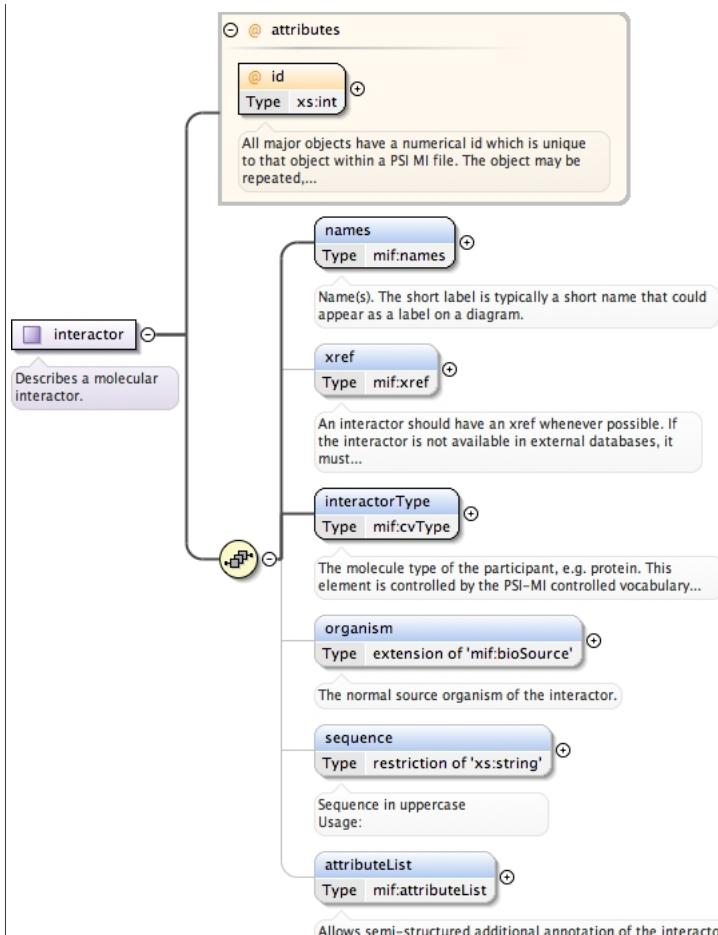
Complex Type mif:interactorList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	List of all interactors occurring in the entry
Diagram	
Used by	Element mif:entry/mif:interactorList
Model	mif:interactor+
Children	mif:interactor
Source	<pre><xs:complexType name="interactorList"> <xs:annotation> <xs:documentation>List of all interactors occurring in the entry</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="interactor" type="mif:interactor" minOccurs="1" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>A molecule object in its native state, as described in databases.</xs:documentation> <xs:documentation>Usage: A protein interactor must contain an xref to UniProt and NCBI-GI where possible.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType></pre>

Complex Type mif:interactor

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Describes a molecular interactor.

Diagram



Used by	Elements	mif:abstractParticipant/mif:interactor, mif:experimentalInteractor/mif:interactor, mif:interactorList/mif:interactor, mif:participant/mif:interactor, mif:participantCandidateParent/mif:interactor
---------	----------	---

Model	mif:names , mif:xref{0,1} , mif:interactorType , mif:organism{0,1} , mif:sequence{0,1} , mif:attributeList{0,1}
-------	---

Children	mif:attributeList, mif:interactorType, mif:names, mif:organism, mif:sequence, mif:xref
----------	--

Attributes	QName	Type	Fixed	Default	Use
	id	xs:int			required

All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.

Source	<pre> <xs:complexType name="interactor"> <xs:annotation> <xs:documentation>Describes a molecular interactor.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="names" type="mif:names"> <xs:annotation> <xs:documentation>Name(s). The short label is typically a short name that could appear as a label on a diagram.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>An interactor should have an xref whenever possible. If the interactor is not available in external databases, it must be characterised within this object e.g. by its sequence.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="interactorType" type="mif:cvType"> <xs:annotation> <xs:documentation>The molecule type of the participant, e.g. protein. This element is controlled by the PSI-MI controlled vocabulary "interactor", root term id MI:0313.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </pre>
--------	---

```

<xs:element name="organism" minOccurs="0">
  <xs:annotation>
    <xs:documentation>The normal source organism of the interactor.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="mif:bioSource"/>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="sequence" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Sequence in uppercase</xs:documentation>
    <xs:documentation>Usage:</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="attributeList" type="mif:attributeList" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Allows semi-structured additional annotation of the interactor.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:attribute name="id" type="xs:int" use="required">
      <xs:annotation>
        <xs:documentation>All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
  </xs:sequence>
</xs:element>

```

All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.

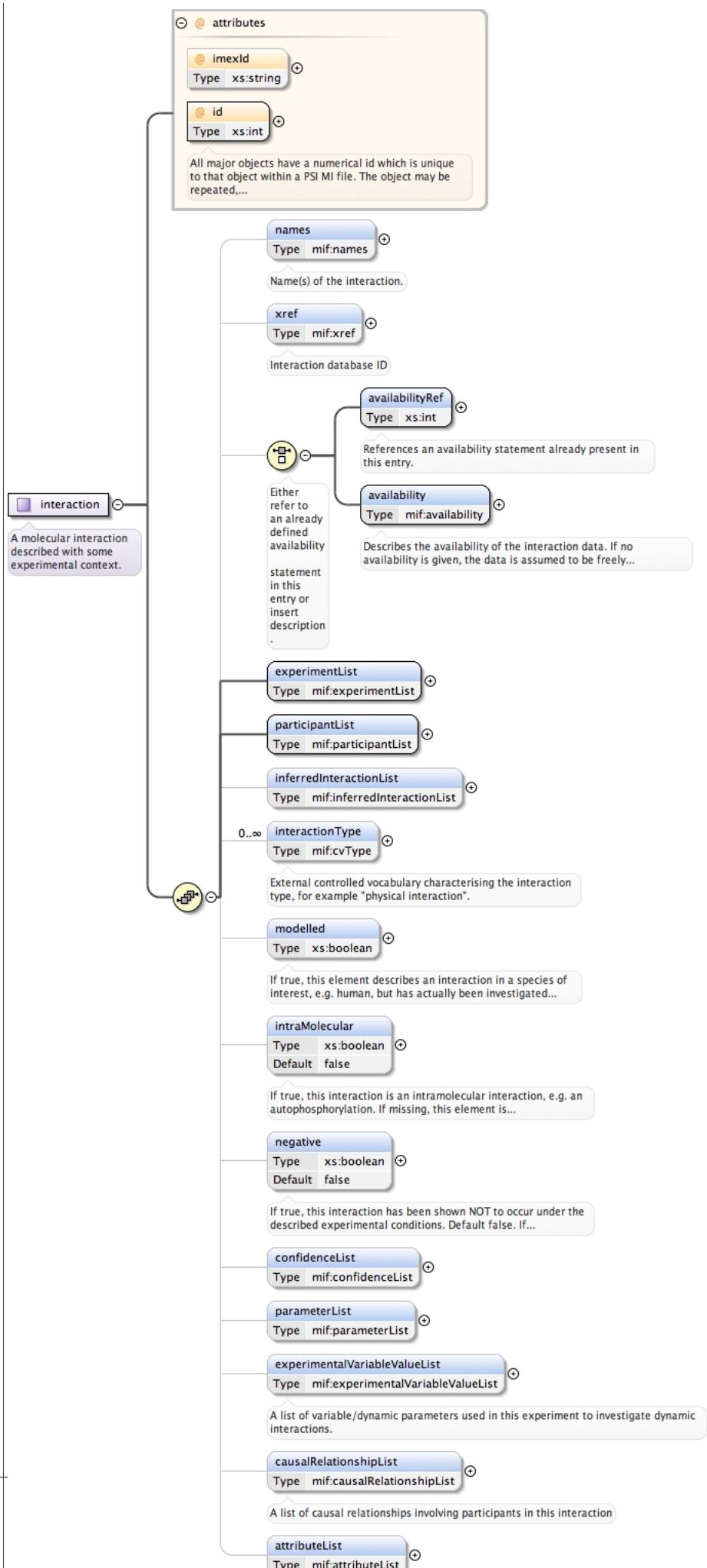
Complex Type mif:interactionList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	List of interactions
Diagram	<pre> classDiagram class interactionList { <<List of interactions>> } class interaction { <<Type mif:interaction>> } class abstractInteraction { <<Type mif:abstractInteraction>> } interactionList "1..>" -- "1..>" interaction interactionList "1..>" -- "1..>" abstractInteraction </pre> <p>Abstract interaction describing a stable complex, allosteric interaction , etc... These interactions are abstracted...</p>
Used by	Element mif:entry/mif:interactionList
Model	(mif:interaction mif:abstractInteraction)
Children	mif:abstractInteraction, mif:interaction
Source	<pre> <xs:complexType name="interactionList"> <xs:annotation> <xs:documentation>List of interactions</xs:documentation> </xs:annotation> <xs:sequence> <xs:choice maxOccurs="unbounded"> <xs:element name="interaction" type="mif:interaction"/> <xs:element name="abstractInteraction" type="mif:abstractInteraction"> <xs:annotation> <xs:documentation>Abstract interaction describing a stable complex, allosteric interaction , etc... These interactions are abstracted from the experimental context and used to describe biological entities</xs:documentation> </xs:annotation> </xs:element> </xs:choice> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:interaction

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A molecular interaction described with some experimental context.

Diagram



Used by	Element	mif:interactionList/mif:interaction			
Model	mif:names{0,1} , mif:xref{0,1} , (mif:availabilityRef mif:availability) , mif:experimentList , mif:participantList , mif:inferredInteractionList{0,1} , mif:interactionType* , mif:modelled{0,1} , mif:intraMolecular{0,1} , mif:negative{0,1} , mif:confidenceList{0,1} , mif:parameterList{0,1} , mif:experimentalVariableList{0,1} , mif:causalRelationshipList{0,1} , mif:attributeList{0,1}				
Children	mif:attributeList, mif:availability, mif:availabilityRef, mif:causalRelationshipList, mif:confidenceList, mif:experimentList, mif:experimentalVariableList, mif:inferredInteractionList, mif:interactionType, mif:intraMolecular, mif:modelled, mif:names, mif:negative, mif:parameterList, mif:participantList, mif:xref				
Attributes	QName	Type	Fixed	Default	Use
	id	xs:int			required
		All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.			
Source	imexId	xs:string			optional
	<pre> <xs:complexType name="interaction"> <xs:annotation> <xs:documentation>A molecular interaction described with some experimental context.</xs:documentation> <xs:documentation></xs:annotation> <xs:sequence> <xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>Name(s) of the interaction.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>Interaction database ID</xs:documentation> </xs:annotation> </xs:element> <xs:choice minOccurs="0"> <xs:annotation> <xs:documentation>Either refer to an already defined availability statement in this entry or insert description.</xs:documentation> </xs:annotation> <xs:element name="availabilityRef" type="xs:int"> <xs:annotation> <xs:documentation>References an availability statement already present in this entry.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="availability" type="mif:availability"> <xs:annotation> <xs:documentation>Describes the availability of the interaction data. If no availability is given, the data is assumed to be freely available.</xs:documentation> </xs:annotation> </xs:element> </xs:choice> <xs:element name="experimentList" type="mif:experimentList"/> <xs:element name="participantList" type="mif:participantList"/> <xs:element name="inferredInteractionList" type="mif:inferredInteractionList" minOccurs="0"/> <xs:element name="interactionType" type="mif:cvType" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>External controlled vocabulary characterising the interaction type, for example "physical interaction".</xs:documentation> </xs:annotation> </xs:element> <xs:element name="modelled" type="xs:boolean" minOccurs="0"> <xs:annotation> <xs:documentation>If true, this element describes an interaction in a species of interest, e.g. human, but has actually been investigated in another organism, e.g. mouse. The transfer will usually be based on a homology statement made by the data producer. If this optional element is missing, it is assumed to be set to false.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="intraMolecular" type="xs:boolean" default="false" minOccurs="0"> <xs:annotation> <xs:documentation>If true, this interaction is an intramolecular interaction, e.g. an autophosphorylation. If missing, this element is assumed to be false.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="negative" type="xs:boolean" default="false" minOccurs="0"> <xs:annotation> <xs:documentation>If true, this interaction has been shown NOT to occur under the described experimental conditions. Default false. If this optional element is missing, it is assumed to be set to false.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType></pre>				

```

        </xs:annotation>
    </xs:element>
    <xs:element name="confidenceList" type="mif:confidenceList" minOccurs="0">
        <xs:element name="parameterList" type="mif:parameterList" minOccurs="0"/>
        <xs:element name="experimentalVariableValueList" type="mif:experimentalVariableValueList"
minOccurs="0">
            <xs:annotation>
                <xs:documentation>A list of variable/dynamic parameters used in this experiment to
investigate dynamic interactions.</xs:documentation>
            </xs:annotation>
        </xs:element>
        <xs:element name="causalRelationshipList" type="mif:causalRelationshipList" minOccurs="0">
            <xs:annotation>
                <xs:documentation>A list of causal relationships involving participants in this
interaction</xs:documentation>
            </xs:annotation>
        </xs:element>
        <xs:element name="attributeList" type="mif:attributeList" minOccurs="0"/>
    </xs:sequence>
    <xs:attribute name="imexId" type="xs:string" use="optional"/>
    <xs:attribute name="id" type="xs:int" use="required">
        <xs:annotation>
            <xs:documentation>All major objects have a numerical id which is unique to that object within
a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</xs:
documentation>
        </xs:annotation>
    </xs:attribute>
</xs:complexType>

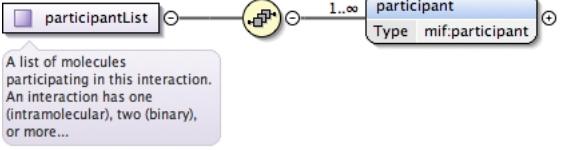
```

Complex Type mif:experimentList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	List of experiments in which this interaction has been determined.
Diagram	<p>Diagram description: This is a UML class diagram. On the left, there is a class named 'experimentList' with a blue border and a small icon. It has a multiplicity of '1..oo' at its end. Two associations originate from it: one to a class 'experimentRef' (Type 'xs:int') with a multiplicity of '+' at its end, and another to a class 'experimentDescription' (Type 'mif:experimentDescription') with a multiplicity of '+' at its end. A note next to the first association says 'References an experiment already present in this entry.'</p>
Used by	Element mif:interaction/mif:experimentList
Model	mif:experimentRef mif:experimentDescription
Children	mif:experimentDescription, mif:experimentRef
Source	<pre> <xs:complexType name="experimentList"> <xs:annotation> <xs:documentation>List of experiments in which this interaction has been determined.</xs: documentation> </xs:annotation> <xs:choice maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Either refer to an already defined experiment in this entry or insert description.</xs:documentation> </xs:annotation> <xs:element name="experimentRef" type="xs:int"> <xs:annotation> <xs:documentation>References an experiment already present in this entry.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="experimentDescription" type="mif:experimentDescription"> <xs:annotation> <xs:documentation>An experiment in which this interaction has been determined.</xs: documentation> </xs:annotation> </xs:element> </xs:choice> </xs:complexType> </pre>

Complex Type mif:participantList

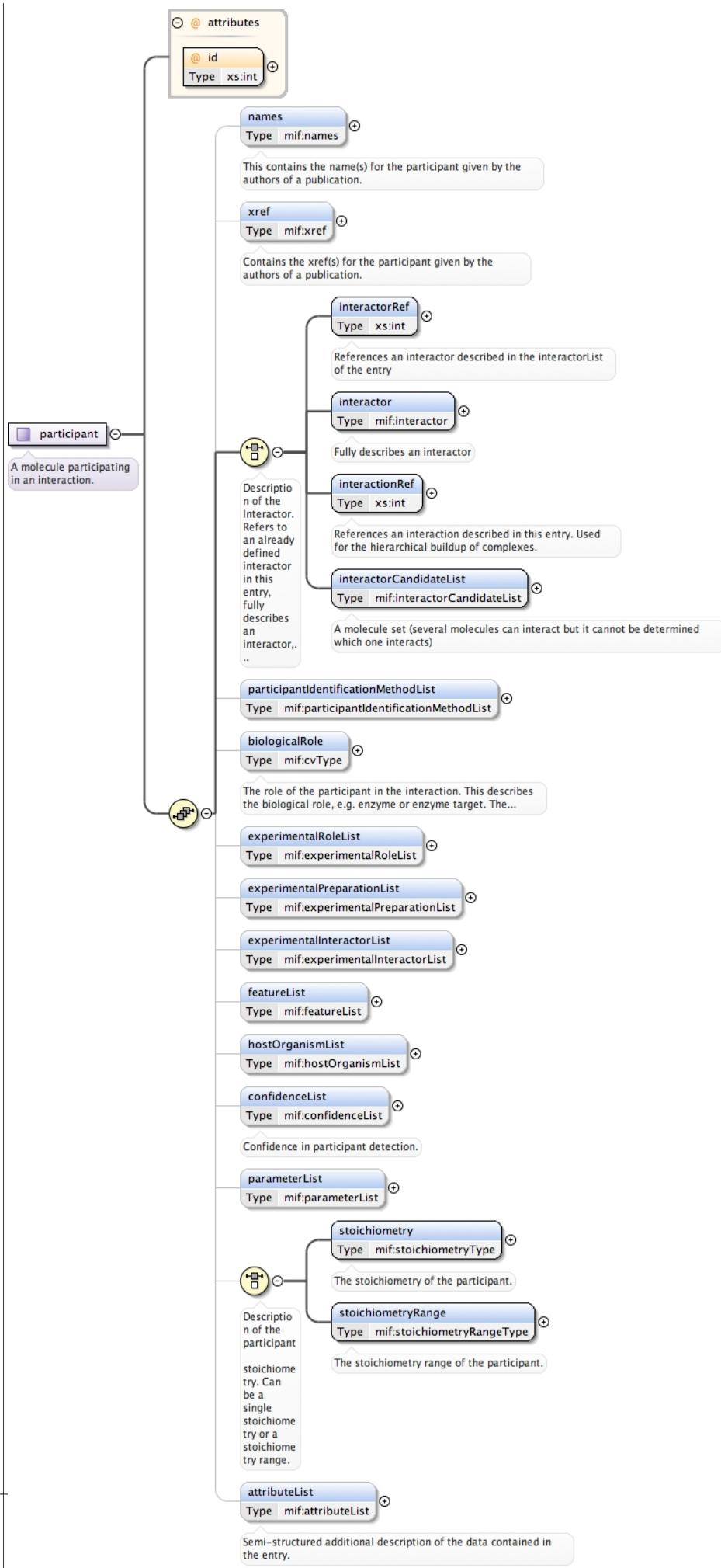
Namespace	http://psi.hupo.org/mi/mif300
-----------	-------------------------------

Annotations	A list of molecules participating in this interaction. An interaction has one (intramolecular), two (binary), or more (n-ary, complexes) participants.
Diagram	 <p>A list of molecules participating in this interaction. An interaction has one (intramolecular), two (binary), or more...</p>
Used by	Element mif:interaction/mif:participantList
Model	mif:participant+
Children	mif:participant
Source	<pre><xs:complexType name="participantList"> <xs:annotation> <xs:documentation>A list of molecules participating in this interaction. An interaction has one (intramolecular), two (binary), or more (n-ary, complexes) participants.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="participant" type="mif:participant" maxOccurs="unbounded" /> </xs:sequence> </xs:complexType></pre>

Complex Type mif:participant

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A molecule participating in an interaction.

Diagram



Used by	Element	mif:participantList/mif:participant			
Model		mif:names{0,1} , mif:xref{0,1} , (mif:interactorRef mif:interactor mif:interactionRef mif:interactorCandidateList) , mif:participantIdentificationMethodList{0,1} , mif:biologicalRole{0,1} , mif:experimentalRoleList{0,1} , mif:experimentalPreparationList{0,1} , mif:experimentalInteractorList{0,1} , mif:featureList{0,1} , mif:hostOrganismList{0,1} , mif:confidenceList{0,1} , mif:parameterList{0,1} , (mif:stoichiometry mif:stoichiometryRange) , mif:attributeList{0,1}			
Children		mif:attributeList, mif:biologicalRole, mif:confidenceList, mif:experimentalInteractorList, mif:experimentalPreparationList, mif:experimentalRoleList, mif:featureList, mif:hostOrganismList, mif:interactionRef, mif:interactor, mif:interactorCandidateList, mif:interactorRef, mif:names, mif:parameterList, mif:participantIdentificationMethodList, mif:stoichiometry, mif:stoichiometryRange, mif:xref			
Attributes	QName id	Type xs:int	Fixed	Default	Use required
Source	<pre> <xs:complexType name="participant"> <xs:annotation> <xs:documentation>A molecule participating in an interaction.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>This contains the name(s) for the participant given by the authors of a publication.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>Contains the xref(s) for the participant given by the authors of a publication.</xs:documentation> </xs:annotation> </xs:element> <xs:choice> <xs:annotation> <xs:documentation>Description of the Interactor. Refers to an already defined interactor in this entry, fully describes an interactor, references another interaction defined in this entry, to allow the hierarchical building up of complexes from subunits, or describe a molecule set (several molecules can interact but it cannot be determined which one interacts).</xs:documentation> </xs:annotation> <xs:element name="interactorRef" type="xs:int"> <xs:annotation> <xs:documentation>References an interactor described in the interactorList of the entry</xs:documentation> </xs:annotation> </xs:element> <xs:element name="interactor" type="mif:interactor"> <xs:annotation> <xs:documentation>Fully describes an interactor</xs:documentation> </xs:annotation> </xs:element> <xs:element name="interactionRef" type="xs:int"> <xs:annotation> <xs:documentation>References an interaction described in this entry. Used for the hierarchical buildup of complexes.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="interactorCandidateList" type="mif:interactorCandidateList"> <xs:annotation> <xs:documentation>A molecule set (several molecules can interact but it cannot be determined which one interacts)</xs:documentation> </xs:annotation> </xs:element> <xs:choice> <xs:element name="participantIdentificationMethodList" type="mif:participantIdentificationMethodList" minOccurs="0"/> <xs:element name="biologicalRole" type="mif:cvType" minOccurs="0"> <xs:annotation> <xs:documentation>The role of the participant in the interaction. This describes the biological role, e.g. enzyme or enzyme target. The experimental role of the participant, e.g. 'bait', is shown in experimentalForm. This element is controlled by the PSI-MI controlled vocabulary "biologicalRole", root term id MI:0500.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="experimentalRoleList" type="mif:experimentalRoleList" minOccurs="0"/> <xs:element name="experimentalPreparationList" type="mif:experimentalPreparationList" minOccurs="0"/> <xs:element name="experimentalInteractorList" type="mif:experimentalInteractorList" minOccurs="0"/> <xs:element name="featureList" type="mif:featureList" minOccurs="0"/> <xs:element name="hostOrganismList" type="mif:hostOrganismList" minOccurs="0"/> <xs:element name="confidenceList" type="mif:confidenceList" minOccurs="0"/> </xs:choice> </xs:sequence> </xs:complexType> </pre>				

```

<xs:annotation>
  <xs:documentation>Confidence in participant detection.</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element name="parameterList" type="mif:parameterList" minOccurs="0">
<xs:choice minOccurs="0">
  <xs:annotation>
    <xs:documentation>Description of the participant stoichiometry. Can be a single
stoichiometry or a stoichiometry range.</xs:documentation>
  </xs:annotation>
  <xs:element name="stoichiometry" type="mif:stoichiometryType">
    <xs:annotation>
      <xs:documentation>The stoichiometry of the participant.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="stoichiometryRange" type="mif:stoichiometryRangeType">
    <xs:annotation>
      <xs:documentation>The stoichiometry range of the participant.</xs:documentation>
    </xs:annotation>
  </xs:element>
</xs:choice>
<xs:element name="attributeList" type="mif:attributeList" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Semi-structured additional description of the data contained in the
entry.</xs:documentation>
  </xs:annotation>
</xs:element>
</xs:sequence>
<xs:attribute name="id" type="xs:int" use="required"/>
</xs:complexType>

```

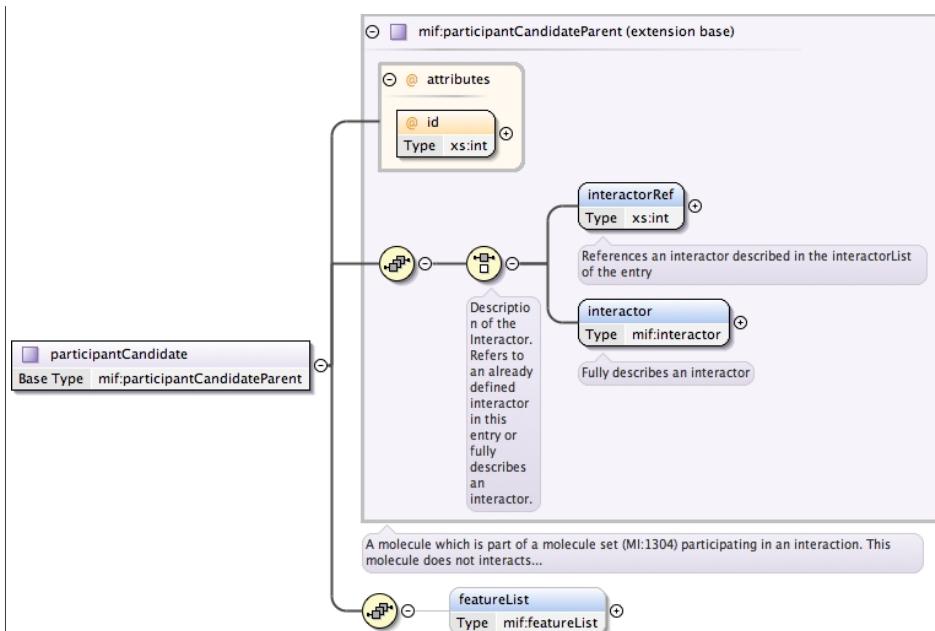
Complex Type mif:interactorCandidateList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The list of interactor candidates.
Diagram	<p>The diagram illustrates the structure of the <code>mif:interactorCandidateList</code> complex type. It shows a sequence of two elements: <code>moleculeSetType</code> and <code>interactorCandidate</code>. The <code>moleculeSetType</code> element is controlled by the PSI-MI vocabulary "interactor". The <code>interactorCandidate</code> element is also controlled by the PSI-MI vocabulary "interactor".</p>
Used by	Element <code>mif:participant/mif:interactorCandidateList</code>
Model	<code>mif:moleculeSetType</code> , <code>mif:interactorCandidate+</code>
Children	<code>mif:interactorCandidate</code> , <code>mif:moleculeSetType</code>
Source	<pre> <xs:complexType name="interactorCandidateList"> <xs:annotation> <xs:documentation>The list of interactor candidates.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="moleculeSetType" type="mif:cvType" minOccurs="1"> <xs:annotation> <xs:documentation>The type of molecule set, e.g. candidate set, defined set, ... This element is controlled by the PSI-MI controlled vocabulary "interactor", root term id MI:1304.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="interactorCandidate" type="mif:participantCandidate" maxOccurs="unbounded" minOccurs="1"/> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:participantCandidate

Namespace	http://psi.hupo.org/mi/mif300
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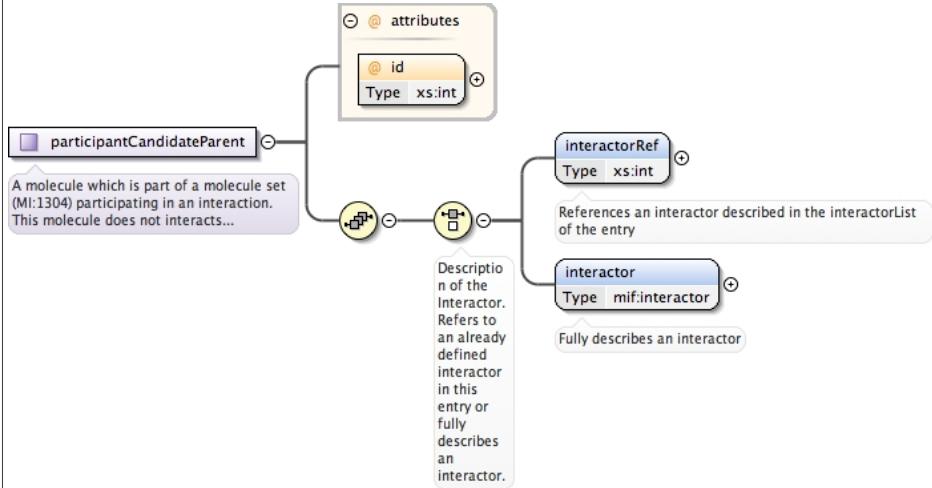
Diagram



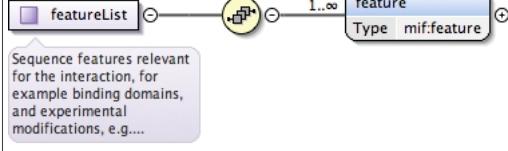
Type	extension of mif:participantCandidateParent										
Type hierarchy	<ul style="list-style-type: none"> • mif:participantCandidateParent • mif:participantCandidate 										
Used by	Element mif:interactorCandidateList/mif:interactorCandidate										
Model	(mif:interactorRef mif:interactor), mif:featureList{0,1}										
Children	mif:featureList, mif:interactor, mif:interactorRef										
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td>id</td><td>xs:int</td><td></td><td></td><td>required</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required
QName	Type	Fixed	Default	Use							
id	xs:int			required							
Source	<pre><xs:complexType name="participantCandidate"> <xs:complexContent> <xs:extension base="mif:participantCandidateParent"> <xs:sequence> <xs:element name="featureList" type="mif:featureList" minOccurs="0"/> </xs:sequence> </xs:extension> </xs:complexContent> </xs:complexType></pre>										

Complex Type mif:participantCandidateParent

Namespace	http://psi.hupo.org/mi/mif300
Annotations	<p>A molecule which is part of a molecule set (MI:1304) participating in an interaction. This molecule does not interact with the other participant candidates. A molecule set is a group of molecules linked by a high degree of similarity of sequence and/or function and not easily separated by participant identification methods. It means that we cannot determine for sure which molecules of the molecule set is the participant of this interaction.</p>

Diagram											
Used by	Complex Types mif:abstractParticipantCandidate, mif:participantCandidate										
Model	(mif:interactorRef mif:interactor)										
Children	mif:interactor, mif:interactorRef										
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td>id</td><td>xs:int</td><td></td><td></td><td>required</td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required
QName	Type	Fixed	Default	Use							
id	xs:int			required							
Source	<pre> <xs:complexType name="participantCandidateParent"> <xs:annotation> <xs:documentation>A molecule which is part of a molecule set (MI:1304) participating in an interaction. This molecule does not interact with the other participant candidates. A molecule set is a group of molecules linked by a high degree of similarity of sequence and/or function and not easily separated by participant identification methods. It means that we cannot determine for sure which molecules of the molecule set is the participant of this interaction.</xs:documentation> </xs:annotation> <xs:sequence> <xs:choice> <xs:annotation> <xs:documentation>Description of the Interactor. Refers to an already defined interactor in this entry or fully describes an interactor.</xs:documentation> </xs:annotation> <xs:element name="interactorRef" type="xs:int"> <xs:annotation> <xs:documentation>References an interactor described in the interactorList of the entry</xs:documentation> </xs:annotation> </xs:element> <xs:element name="interactor" type="mif:interactor"> <xs:annotation> <xs:documentation>Fully describes an interactor</xs:documentation> </xs:annotation> </xs:element> </xs:choice> </xs:sequence> <xs:attribute name="id" type="xs:int" use="required"/> </xs:complexType> </pre>										

Complex Type mif:featureList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Sequence features relevant for the interaction, for example binding domains, and experimental modifications, e.g. protein tags.
Diagram	
Used by	Elements mif:participant/mif:featureList, mif:participantCandidate/mif:featureList
Model	mif:feature+
Children	mif:feature

Source	<pre><xss:complexType name="featureList"> <xss:annotation> <xss:documentation>Sequence features relevant for the interaction, for example binding domains, and experimental modifications, e.g. protein tags.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="feature" type="mif:feature" maxOccurs="unbounded"/> </xss:sequence> </xss:complexType></pre>
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Complex Type mif:feature

Namespace	http://psi.hupo.org/mi/mif300										
Annotations	A feature, e.g. domain, on a sequence.										
Diagram	<p>The diagram illustrates the structure of the <code>mif:feature</code> complex type. It starts with a central node labeled <code>feature</code>, which is described as "A feature, e.g. domain, on a sequence." This node has several associations and attributes:</p> <ul style="list-style-type: none"> Attributes: <code>@ attributes</code> (with <code>id</code> of type <code>xs:int</code>), <code>names</code> (of type <code>mif:names</code>), <code>xref</code> (of type <code>mif:xref</code>), <code>featureType</code> (of type <code>mif:cvType</code>), <code>featureDetectionMethod</code> (of type <code>mif:cvType</code>, multiplicity <code>0..infinity</code>), <code>experimentRefList</code> (of type <code>mif:experimentRefList</code>), <code>featureRangeList</code>, <code>featureRole</code> (of type <code>mif:cvType</code>), <code>parameterList</code> (of type <code>mif:parameterList</code>), and <code>attributeList</code> (of type <code>mif:attributeList</code>). Associations: A self-loop arrow points back to the <code>feature</code> node. 										
Used by	Element <code>mif:featureList/mif:feature</code>										
Model	<code>mif:names{0,1}</code> , <code>mif:xref{0,1}</code> , <code>mif:featureType{0,1}</code> , <code>mif:featureDetectionMethod*</code> , <code>mif:experimentRefList{0,1}</code> , <code>mif:featureRangeList</code> , <code>mif:featureRole{0,1}</code> , <code>mif:parameterList{0,1}</code> , <code>mif:attributeList{0,1}</code>										
Children	<code>mif:attributeList</code> , <code>mif:experimentRefList</code> , <code>mif:featureDetectionMethod</code> , <code>mif:featureRangeList</code> , <code>mif:featureRole</code> , <code>mif:featureType</code> , <code>mif:names</code> , <code>mif:parameterList</code> , <code>mif:xref</code>										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td><code>id</code></td> <td><code>xs:int</code></td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	<code>id</code>	<code>xs:int</code>			required
QName	Type	Fixed	Default	Use							
<code>id</code>	<code>xs:int</code>			required							
Source	<pre><xss:complexType name="feature"> <xss:annotation></pre>										

```

<xs:documentation>A feature, e.g. domain, on a sequence.</xs:documentation>
</xs:annotation>
<xs:sequence>
  <xs:element name="names" type="mif:names" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Names for the feature, e.g. SH3 domain.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="xref" type="mif:xref" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Reference to an external feature description, for example InterPro
entry.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="featureType" type="mif:cvType" maxOccurs="1" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Description and classification of the feature. This element is controlled
by the PSI-MI controlled vocabulary "feature", root term id MI:0116.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="featureDetectionMethod" type="mif:cvType" maxOccurs="unbounded" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Experimental method used to identify the feature. A setting here
overrides the global setting given in the experimentDescription. External controlled vocabulary.</
xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0">
    <xs:annotation>
      <xs:documentation>If no experimentRef is given, it is assumed this refers to all experiments
linked to the interaction.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="featureRangeList">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="featureRange" type="mif:baseLocation" maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>Location of the feature on the sequence of the interactor. One
feature may have more than one featureRange, used e.g. for features which involve sequence
positions close in the folded, three-dimensional state of a protein, but non-continuous along the
sequence.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="featureRole" type="mif:cvType" minOccurs="0" maxOccurs="1">
    <xs:annotation>
      <xs:documentation>The role of the feature in the context of this interaction. It usually
describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of
the feature on the interaction. (Ex: prerequisite-ptm,...).</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="parameterList" type="mif:parameterList" minOccurs="0">
    <xs:annotation>
      <xs:documentation>List of experimental parameters attached to this feature. For instance,
the changes in the kd of the interaction will be added at the feature level with the description of
the mutation</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="attributeList" type="mif:attributeList" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Semi-structured additional description of the data contained in the
entry.</xs:documentation>
    </xs:annotation>
  </xs:element>
</xs:sequence>
<xs:attribute name="id" type="xs:int" use="required"/>
</xs:complexType>

```

Complex Type **mif:baseLocation**

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A location on a sequence. Both begin and end can be a defined position, a fuzzy position, or undetermined.

Diagram	<pre> classDiagram class baseLocation { startStatus begin beginInterval endStatus end endInterval isLink resultingSequence participantRef } startStatus "1..>" baseLocation begin "1..>" baseLocation beginInterval "1..>" baseLocation endStatus "1..>" baseLocation end "1..>" baseLocation endInterval "1..>" baseLocation isLink "0..1" baseLocation resultingSequence "0..1" baseLocation participantRef "0..1" baseLocation </pre> <p>baseLocation</p> <p>A location on a sequence. Both begin and end can be a defined position, a fuzzy position, or undetermined.</p> <p>startStatus Type mif:cvType Attribute of the start positions, e.g. "certain" or "n-terminal".</p> <p>begin Type mif:position The integer position gives the begin position of the feature. The first base or amino acid is position 1. In...</p> <p>beginInterval Type mif:interval The begin position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5....</p> <p>endStatus Type mif:cvType Attribute of the end positions, e.g. "certain" or "c-terminal".</p> <p>end Type mif:position The integer position gives the end position of the feature. The first base or amino acid is position 1. In combination...</p> <p>endInterval Type mif:interval The end position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5. Negative...</p> <p>isLink Type xs:boolean Default false True if the described feature is a linking feature connecting two amino acids rather than extending along the sequence....</p> <p>resultingSequence Type mif:resultingSequenceType The resultingSequence gives some information about the sequence changes.</p> <p>participantRef Type xs:int References a participant described in the entry. The participantRef is aimed at describing complex binding sites such...</p>
Used by	Elements mif:abstractFeature/mif:featureRangeList/mif:featureRange, mif:feature/mif:featureRangeList/ mif:featureRange
Model	mif:startStatus , (mif:begin mif:beginInterval) , mif:endStatus , (mif:end mif:endInterval) , mif:isLink{0,1} , mif:resultingSequence{0,1} , mif:participantRef{0,1}
Children	mif:begin, mif:beginInterval, mif:end, mif:endInterval, mif:endStatus, mif:isLink, mif:participantRef, mif:resultingSequence, mif:startStatus
Source	<pre> <xs:complexType name="baseLocation"> <xs:annotation> <xs:documentation>A location on a sequence. Both begin and end can be a defined position, a fuzzy position, or undetermined.</xs:documentation> </xs:annotation> <xs:sequence> <xs:sequence> <xs:element name="startStatus" type="mif:cvType"> <xs:annotation> <xs:documentation>Attribute of the start positions, e.g. "certain" or "n-terminal"</xs:documentation> </xs:annotation> <xs:choice minOccurs="0"> <xs:element name="begin" type="mif:position"> <xs:annotation> <xs:documentation>The integer position gives the begin position of the feature. The first base or amino acid is position 1. In combination with the numeric value, the attribute 'status' allows to express fuzzy positions, e.g. 'less than 4'. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</xs:documentation> </xs:annotation> </xs:element> </xs:choice> </xs:sequence> </xs:sequence> </xs:complexType> </pre>

```

<xs:element name="beginInterval" type="mif:interval">
    <xs:annotation>
        <xs:documentation>The begin position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</xs:documentation>
    </xs:annotation>
</xs:element>
</xs:choice>
</xs:sequence>
<xs:sequence>
    <xs:element name="endStatus" type="mif:cvType">
        <xs:annotation>
            <xs:documentation>Attribute of the end positions, e.g. "certain" or "c-terminal"</xs:documentation>
        </xs:annotation>
    </xs:element>
<xs:choice minOccurs="0">
    <xs:element name="end" type="mif:position">
        <xs:annotation>
            <xs:documentation>The integer position gives the end position of the feature. The first base or amino acid is position 1. In combination with the numeric value, the attribute 'status' allows to express fuzzy positions, e.g. 'more than 400'. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="endInterval" type="mif:interval">
        <xs:annotation>
            <xs:documentation>The end position may be varying or unclear, but localisable to a certain range. Usually written as e.g. 3..5. Negative positions can be used to describe promoter regions when the interactor is a gene but should not be allowed for proteins</xs:documentation>
        </xs:annotation>
    </xs:element>
    </xs:choice>
</xs:sequence>
<xs:element name="isLink" type="xs:boolean" default="false" minOccurs="0">
    <xs:annotation>
        <xs:documentation>True if the described feature is a linking feature connecting two amino acids rather than extending along the sequence. 'begin' references the first amino acid, 'end' the second. Standard example is a disulfide bridge. Does not reference another feature, therefore is only suitable for linking features on the same amino acid chain.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="resultingSequence" type="mif:resultingSequenceType" minOccurs="0" maxOccurs="1">
    <xs:annotation>
        <xs:documentation>The resultingSequence gives some information about the sequence changes.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="participantRef" type="xs:int" minOccurs="0" maxOccurs="1">
    <xs:annotation>
        <xs:documentation>References a participant described in the entry. The participantRef is aimed at describing complex binding sites such as composite binding sites where the participant is an interaction and the binding site ranges has to specify which participant in the subunit it refers to.</xs:documentation>
    </xs:annotation>
</xs:element>
</xs:sequence>
</xs:complexType>

```

Complex Type **mif:position**

Namespace	http://psi.hupo.org/mi/mif300				
Diagram	<pre> classDiagram class position { @ position Type xs:long } position < -- attributes attributes < -- @ </pre>				
Used by	Elements mif:baseLocation/mif:begin, mif:baseLocation/mif:end				
Attributes	QName	Type	Fixed	Default	Use
	position	xs:long			required
Source	<pre> <xs:complexType name="position"> <xs:attribute name="position" type="xs:long" use="required"/> </xs:complexType> </pre>				

Complex Type mif:interval

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	A interval on a sequence.				
Diagram	<pre> classDiagram class interval { @ begin Type xs:long @ end Type xs:long } note over interval: A interval on a sequence. </pre>				
Used by	Elements mif:baseLocation/mif:beginInterval, mif:baseLocation/mif:endInterval				
Attributes	QName	Type	Fixed	Default	Use
	begin	xs:long			required
	end	xs:long			required
Source	<pre> <xs:complexType name="interval"> <xs:annotation> <xs:documentation>A interval on a sequence.</xs:documentation> </xs:annotation> <xs:attribute name="begin" type="xs:long" use="required"/> <xs:attribute name="end" type="xs:long" use="required"/> </xs:complexType> </pre>				

Complex Type mif:resultingSequenceType

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	Description of the mutated or transformed interactor sequence portion				
Diagram	<pre> classDiagram class resultingSequenceType { <<Description of the mutated or transformed interactor sequence portion>> } class originalSequence { <<The original sequence portion.>> } class newSequence { <<The mutated or transformed sequence portion.>> } class xref { <<External cross reference to a genetic variation database such as dbSNP.>> } resultingSequenceType "1..>" --> originalSequence : originalSequence resultingSequenceType "0..1" --> newSequence : newSequence resultingSequenceType "0..1" --> xref : xref </pre>				
Used by	Element mif:baseLocation/mif:resultingSequence				
Model	(mif:originalSequence , mif:newSequence , mif:xref{0,1}) (mif:xref)				
Children	mif:newSequence, mif:originalSequence, mif:xref				
Source	<pre> <xs:complexType name="resultingSequenceType"> <xs:annotation> <xs:documentation>Description of the mutated or transformed interactor sequence portion</xs:documentation> </xs:annotation> <xs:choice minOccurs="1" maxOccurs="1"> <xs:sequence maxOccurs="unbounded"> <xs:element name="originalSequence" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>The original sequence portion.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="newSequence" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>The mutated or transformed sequence portion.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>External cross reference to a genetic variation database such as dbSNP.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:choice> </xs:complexType> </pre>				

```

        </xs:annotation>
    </xs:element>
</xs:sequence>
</xs:sequence>
<xs:element name="xref" type="mif:xref" minOccurs="1" maxOccurs="1">
    <xs:annotation>
        <xs:documentation>External cross reference to a genetic variation database such as dbSNP.</xs:documentation>
    </xs:annotation>
</xs:element>
</xs:sequence>
</xs:choice>
</xs:complexType>

```

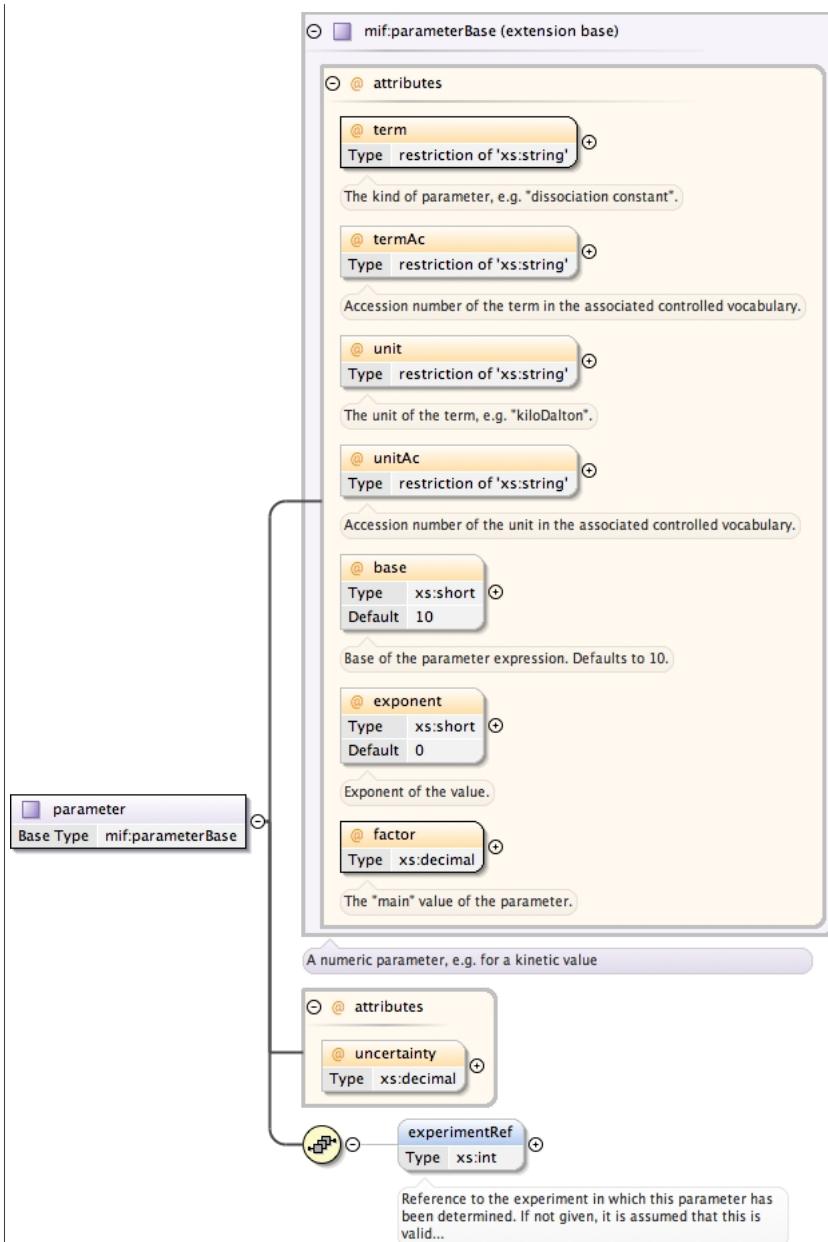
Complex Type mif:parameterList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Lists parameters which are relevant for the Interaction, e.g. kinetics.
Diagram	<p>A UML Class Diagram illustrating the relationship between 'parameterList' and 'parameter'. The 'parameterList' class is represented by a purple rectangle with a hollow circle at its top-left corner. It has a directed association line pointing to the 'parameter' class, which is represented by a blue rounded rectangle with a hollow circle at its top-right corner. A multiplicity '1..∞' is placed on the line between them. Below the classes, a note states: 'Lists parameters which are relevant for the Interaction, e.g. kinetics.'</p>
Used by	Elements mif:feature/mif:parameterList, mif:interaction/mif:parameterList, mif:participant/mif:parameterList
Model	mif:parameter+
Children	mif:parameter
Source	<pre> <xs:complexType name="parameterList"> <xs:annotation> <xs:documentation>Lists parameters which are relevant for the Interaction, e.g. kinetics.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="parameter" type="mif:parameter" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:parameter

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	extension of mif:parameterBase																																													
Type hierarchy	<ul style="list-style-type: none"> • mif:parameterBase • mif:parameter 																																													
Used by	Element mif:parameterList/mif:parameter																																													
Model	mif:experimentRef{0,1}																																													
Children	mif:experimentRef																																													
Attributes	<table border="1"> <thead> <tr> <th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr> </thead> <tbody> <tr> <td>base</td><td>xs:short</td><td></td><td>10</td><td>optional</td></tr> <tr> <td></td><td>Base of the parameter expression. Defaults to 10.</td><td></td><td></td><td></td></tr> <tr> <td>exponent</td><td>xs:short</td><td></td><td>0</td><td>optional</td></tr> <tr> <td></td><td>Exponent of the value.</td><td></td><td></td><td></td></tr> <tr> <td>factor</td><td>xs:decimal</td><td></td><td></td><td>required</td></tr> <tr> <td></td><td>The "main" value of the parameter.</td><td></td><td></td><td></td></tr> <tr> <td>term</td><td>restriction of xs:string</td><td></td><td></td><td>required</td></tr> <tr> <td></td><td>The kind of parameter, e.g. "dissociation constant".</td><td></td><td></td><td></td></tr> </tbody> </table>	QName	Type	Fixed	Default	Use	base	xs:short		10	optional		Base of the parameter expression. Defaults to 10.				exponent	xs:short		0	optional		Exponent of the value.				factor	xs:decimal			required		The "main" value of the parameter.				term	restriction of xs:string			required		The kind of parameter, e.g. "dissociation constant".			
QName	Type	Fixed	Default	Use																																										
base	xs:short		10	optional																																										
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term	restriction of xs:string			required																																										
	The kind of parameter, e.g. "dissociation constant".																																													

QName	Type	Fixed	Default	Use
termAc	restriction of xs:string			optional
	Accession number of the term in the associated controlled vocabulary.			
uncertainty	xs:decimal			optional
unit	restriction of xs:string			optional
	The unit of the term, e.g. "kiloDalton".			
unitAc	restriction of xs:string			optional
	Accession number of the unit in the associated controlled vocabulary.			
Source	<pre><xs:complexType name="parameter"> <xs:complexContent> <xs:extension base="mif:parameterBase"> <xs:sequence> <xs:element name="experimentRef" type="xs:int" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Reference to the experiment in which this parameter has been determined. If not given, it is assumed that this is valid for all experiments attached to the interaction.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> <xs:attribute name="uncertainty" type="xs:decimal" use="optional"/> </xs:extension> </xs:complexContent> </xs:complexType></pre>			

Complex Type mif:parameterBase

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A numeric parameter, e.g. for a kinetic value
Diagram	<p>The diagram illustrates the structure of the <code>mif:parameterBase</code> complex type. It starts with a box labeled <code>parameterBase</code>. A line connects it to a box labeled <code>@ attributes</code>, which contains the following fields:</p> <ul style="list-style-type: none"> <code>@ term</code>: Type restriction of 'xs:string'. Description: The kind of parameter, e.g. "dissociation constant". <code>@ termAc</code>: Type restriction of 'xs:string'. Description: Accession number of the term in the associated controlled vocabulary. <code>@ unit</code>: Type restriction of 'xs:string'. Description: The unit of the term, e.g. "kiloDalton". <code>@ unitAc</code>: Type restriction of 'xs:string'. Description: Accession number of the unit in the associated controlled vocabulary. <code>@ base</code>: Type xs:short. Default: 10. Description: Base of the parameter expression. Defaults to 10. <code>@ exponent</code>: Type xs:short. Default: 0. Description: Exponent of the value. <code>@ factor</code>: Type xs:decimal. Description: The "main" value of the parameter.
Used by	Complex Types mif:abstractParameter, mif:parameter

Attributes	QName	Type	Fixed	Default	Use
	base	xs:short		10	optional
		Base of the parameter expression. Defaults to 10.			
	exponent	xs:short		0	optional
		Exponent of the value.			
	factor	xs:decimal			required
		The "main" value of the parameter.			
	term	restriction of xs:string			required
		The kind of parameter, e.g. "dissociation constant".			
	termAc	restriction of xs:string			optional
		Accession number of the term in the associated controlled vocabulary.			
	unit	restriction of xs:string			optional
		The unit of the term, e.g. "kiloDalton".			
	unitAc	restriction of xs:string			optional
		Accession number of the unit in the associated controlled vocabulary.			
Source	<pre> <xs:complexType name="parameterBase"> <xs:annotation> <xs:documentation>A numeric parameter, e.g. for a kinetic value</xs:documentation> </xs:annotation> <xs:attribute name="term" use="required"> <xs:annotation> <xs:documentation>The kind of parameter, e.g. "dissociation constant".</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="termAc" use="optional"> <xs:annotation> <xs:documentation>Accession number of the term in the associated controlled vocabulary.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="unit" use="optional"> <xs:annotation> <xs:documentation>The unit of the term, e.g. "kiloDalton".</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="unitAc" use="optional"> <xs:annotation> <xs:documentation>Accession number of the unit in the associated controlled vocabulary.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute> <xs:attribute name="base" type="xs:short" use="optional" default="10"> <xs:annotation> <xs:documentation>Base of the parameter expression. Defaults to 10.</xs:documentation> </xs:annotation> </xs:attribute> <xs:attribute name="exponent" type="xs:short" use="optional" default="0"> <xs:annotation> <xs:documentation>Exponent of the value.</xs:documentation> </xs:annotation> </xs:attribute> </pre>				

```
<xs:attribute name="factor" type="xs:decimal" use="required">
  <xs:annotation>
    <xs:documentation>The "main" value of the parameter.</xs:documentation>
  </xs:annotation>
</xs:attribute>
</xs:complexType>
```

Complex Type mif:participantIdentificationMethodList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The method(s) by which this participant has been determined. If this element is present, its value supersedes experimentDescription/ participantIdentificationMethod.
Diagram	<pre> classDiagram participantIdentificationMethodList "1..∞" o--o participantIdentificationMethod note over participantIdentificationMethodList: The method(s) by which this participant has been determined. If this element is present, its value supersedes... </pre>
Used by	Element mif:participant/mif:participantIdentificationMethodList
Model	mif:participantIdentificationMethod+
Children	mif:participantIdentificationMethod
Source	<pre> <xs:complexType name="participantIdentificationMethodList"> <xs:annotation> <xs:documentation>The method(s) by which this participant has been determined. If this element is present, its value supersedes experimentDescription/ participantIdentificationMethod.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="participantIdentificationMethod" type="mif:participantIdentificationMethod" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:participantIdentificationMethod

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI controlled vocabulary "participant identification method", root term id MI:0002.
Diagram	<pre> classDiagram participantIdentificationMethod < -- mif:cvType mif:cvType { <<extension base>> names : mif:names xref : mif:xref <<Reference to an external controlled vocabulary.>> experimentRefList : mif:experimentRefList } mif:names mif:xref mif:experimentRefList </pre> <p>The diagram illustrates the UML class structure for the 'participantIdentificationMethod' element. It is defined as a base type for 'mif:cvType'. The 'mif:cvType' class is annotated with 'extension base'. It contains two attributes: 'names' of type 'mif:names' and 'xref' of type 'mif:xref'. A note indicates that 'names' is the name of the controlled vocabulary term. Another note specifies that 'xref' is the source of the controlled vocabulary term, including the name of the CV and the term ID. A third note states that 'experimentRefList' is a reference to an external controlled vocabulary. Finally, a note specifies that if no 'experimentRef' is given, it is assumed to refer to all experiments linked to the interaction.</p>
Type	extension of mif:cvType
Type hierarchy	<ul style="list-style-type: none"> mif:cvType mif:participantIdentificationMethod
Used by	Element mif:participantIdentificationMethodList/mif:participantIdentificationMethod
Model	mif:names , mif:xref , mif:experimentRefList{0,1}
Children	mif:experimentRefList, mif:names, mif:xref
Source	<pre> <xsd:complexType name="participantIdentificationMethod"> <xsd:annotation> <xsd:documentation>Experimental method to determine the interactors involved in the interaction. This element is controlled by the PSI-MI controlled vocabulary "participant identification method", root term id MI:0002.</xsd:documentation> </xsd:annotation> </xsd:complexType> </pre>

```

</xs:annotation>
<xs:complexContent>
  <xs:extension bases="mif:cvType">
    <xs:sequence minOccurs="0">
      <xs:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0">
        <xs:annotation>
          <xs:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:sequence>
  </xs:extension>
</xs:complexContent>

```

Complex Type mif:experimentalRoleList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The role(s) of the participant in the interaction, e.g. bait.
Diagram	<p>The diagram shows the <code>mif:experimentalRoleList</code> element as a composite element with one child element, <code>mif:experimentalRole</code>. The <code>mif:experimentalRole</code> element is annotated with <code>Type mif:experimentalRole</code>. A note below the diagram states: "The role(s) of the participant in the interaction, e.g. bait."</p>
Used by	Element mif:participant/mif:experimentalRoleList
Model	mif:experimentalRole+
Children	mif:experimentalRole
Source	<pre> <xs:complexType name="experimentalRoleList"> <xs:annotation> <xs:documentation>The role(s) of the participant in the interaction, e.g. bait.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="experimentalRole" type="mif:experimentalRole" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:experimentalRole

Namespace	http://psi.hupo.org/mi/mif300
Annotations	This element is controlled by the PSI-MI controlled vocabulary "experimentalRole", root term id MI:0495.
Diagram	<p>The diagram shows the <code>mif:experimentalRole</code> element as an extension of <code>mif:cvType</code>. It has two attributes: <code>names</code> (Type <code>mif:names</code>) and <code>xref</code> (Type <code>mif:xref</code>). A note below the attributes states: "Name of the controlled vocabulary term." Another note below the <code>xref</code> attribute states: "Source of the controlled vocabulary term. E.g. the name of the CV and the term ID." A note below the <code>experimentalRoleList</code> reference states: "Reference to an external controlled vocabulary." A note below the <code>experimentRefList</code> reference states: "If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction."</p>
Type	extension of <code>mif:cvType</code>
Type hierarchy	<ul style="list-style-type: none"> • <code>mif:cvType</code> • <code>mif:experimentalRole</code>
Used by	Element mif:experimentalRoleList/mif:experimentalRole
Model	<code>mif:names , mif:xref , mif:experimentRefList{0,1}</code>
Children	<code>mif:experimentRefList, mif:names, mif:xref</code>
Source	<pre> <xs:complexType name="experimentalRole"> <xs:annotation> </pre>

```

<xs:documentation>This element is controlled by the PSI-MI controlled vocabulary "experimentalRole", root term id MI:0495.</xs:documentation>
</xs:annotation>
<xs:complexContent>
  <xs:extension base="mif:cvType">
    <xs:sequence minOccurs="0">
      <xs:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0">
        <xs:annotation>
          <xs:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:sequence>
  </xs:extension>
</xs:complexContent>
</xs:complexType>

```

Complex Type mif:experimentalPreparationList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Terms describing the experimental sample preparation.
Diagram	<p>Terms describing the experimental sample preparation.</p>
Used by	Element mif:participant/mif:experimentalPreparationList
Model	mif:experimentalPreparation+
Children	mif:experimentalPreparation
Source	<pre> <xs:complexType name="experimentalPreparationList"> <xs:annotation> <xs:documentation>Terms describing the experimental sample preparation.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="experimentalPreparation" type="mif:experimentalPreparation" maxOccurs="unbounded" /> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:experimentalPreparation

Namespace	http://psi.hupo.org/mi/mif300
Annotations	This element is controlled by the PSI-MI controlled vocabulary "experimentalPreparation", root term id MI:0346.
Diagram	<p>This element is controlled by the PSI-MI controlled vocabulary "experimentalPreparation", root term id MI:0346.</p> <p>mif:cvType (extension base)</p> <p>names Type mif.names</p> <p>Name of the controlled vocabulary term.</p> <p>xref Type mif:xref</p> <p>Source of the controlled vocabulary term. E.g. the name of the CV and the term ID.</p> <p>Reference to an external controlled vocabulary.</p> <p>experimentRefList Type mif:experimentRefList</p> <p>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</p>
Type	extension of mif:cvType
Type hierarchy	<ul style="list-style-type: none"> • mif:cvType <ul style="list-style-type: none"> • mif:experimentalPreparation
Used by	Element mif:experimentalPreparationList/mif:experimentalPreparation
Model	mif:names , mif:xref , mif:experimentRefList{0,1}
Children	mif:experimentRefList, mif:names, mif:xref

Source	<pre> <xss:complexType name="experimentalPreparation"> <xss:annotation> <xss:documentation>This element is controlled by the PSI-MI controlled vocabulary "experimentalPreparation", root term id MI:0346.</xss:documentation> </xss:annotation> <xss:complexContent> <xss:extension bases="mif:cvType"> <xss:sequence minOccurs="0"> <xss:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"> <xss:annotation> <xss:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</xss:documentation> </xss:annotation> </xss:element> </xss:sequence> </xss:extension> </xss:complexContent> </xss:complexType> </pre>
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Complex Type mif:experimentalInteractorList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	<p>Describes molecules which have been used in specific experiments if these molecules are different from the one listed as interactors. Example: The author of a paper makes a statement about human proteins, but has really worked with mouse proteins. In this case the human protein would be the main interactor, while the experimentalForm would be the mouse protein listed in this element. Optionally this can refer to the experiment(s) in which this form has been used.</p>
Diagram	<pre> sequenceDiagram participant A as experimentalInteractorList participant B as experimentalInteractor A->>B activate B B-->>A deactivate B A-->>A </pre>
Used by	Element mif:participant/mif:experimentalInteractorList
Model	mif:experimentalInteractor+
Children	mif:experimentalInteractor
Source	<pre> <xss:complexType name="experimentalInteractorList"> <xss:annotation> <xss:documentation>Describes molecules which have been used in specific experiments if these molecules are different from the one listed as interactors. Example: The author of a paper makes a statement about human proteins, but has really worked with mouse proteins. In this case the human protein would be the main interactor, while the experimentalForm would be the mouse protein listed in this element. Optionally this can refer to the experiment(s) in which this form has been used.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="experimentalInteractor" type="mif:experimentalInteractor" maxOccurs="unbounded"/> </xss:sequence> </xss:complexType> </pre>

Complex Type mif:experimentalInteractor

Namespace	http://psi.hupo.org/mi/mif300
Diagram	<pre> choiceDiagram participant A as experimentalInteractor participant B as interactorRef participant C as interactor participant D as experimentRefList A --> B A --> C A --> D </pre> <p>Annotations for the diagram:</p> <ul style="list-style-type: none"> Either refer to an already defined protein interactor in this entry or insert description . References an interactor described in the interactorList of the entry Fully describes an interactor If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.

Used by	Element mif:experimentalInteractorList/mif:experimentalInteractor
Model	(mif:interactorRef mif:interactor) , mif:experimentRefList{0,1}
Children	mif:experimentRefList, mif:interactor, mif:interactorRef
Source	<pre> <xs:complexType name="experimentalInteractor"> <xs:sequence> <xs:choice> <xs:annotation> <xs:documentation>Either refer to an already defined protein interactor in this entry or insert description.</xs:documentation> </xs:annotation> <xs:element name="interactorRef" type="xs:int"> <xs:annotation> <xs:documentation>References an interactor described in the interactorList of the entry</xs:documentation> </xs:annotation> </xs:element> <xs:element name="interactor" type="mif:interactor"> <xs:annotation> <xs:documentation>Fully describes an interactor</xs:documentation> </xs:annotation> </xs:element> </xs:choice> <xs:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0"> <xs:annotation> <xs:documentation>If no experimentRef is given, it is assumed this refers to all experiments linked to the interaction.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType></pre>

Complex Type mif:stoichiometryType

Namespace	http://psi.hupo.org/mi/mif300																			
Annotations	The mean value for the participant stoichiometry.																			
Diagram	<pre> classDiagram class stoichiometryType { @ value : xs:int } note over stoichiometryType: The mean value for the participant stoichiometry. note over @ value: The participant stoichiometry value </pre>																			
Used by	Elements mif:abstractParticipant/mif:stoichiometry, mif:participant/mif:stoichiometry																			
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>value</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td colspan="4">The participant stoichiometry value</td></tr> </tbody> </table>					QName	Type	Fixed	Default	Use	value	xs:int			required		The participant stoichiometry value			
QName	Type	Fixed	Default	Use																
value	xs:int			required																
	The participant stoichiometry value																			
Source	<pre> <xs:complexType name="stoichiometryType"> <xs:annotation> <xs:documentation>The mean value for the participant stoichiometry.</xs:documentation> </xs:annotation> <xs:attribute name="value" type="xs:int" use="required"> <xs:annotation> <xs:documentation>The participant stoichiometry value</xs:documentation> </xs:annotation> </xs:attribute> </xs:complexType></pre>																			

Complex Type mif:stoichiometryRangeType

Namespace	http://psi.hupo.org/mi/mif300				
Annotations	The stoichiometry range of a participant.				

Diagram																										
Used by	Elements mif:abstractParticipant/mif:stoichiometryRange, mif:participant/mif:stoichiometryRange																									
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>maxValue</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td></td> <td colspan="3">The maximum stoichiometry value</td> </tr> <tr> <td>minValue</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td></td> <td colspan="3">The minimum stoichiometry value</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	maxValue	xs:int			required			The maximum stoichiometry value			minValue	xs:int			required			The minimum stoichiometry value		
QName	Type	Fixed	Default	Use																						
maxValue	xs:int			required																						
		The maximum stoichiometry value																								
minValue	xs:int			required																						
		The minimum stoichiometry value																								
Source	<pre><xs:complexType name="stoichiometryRangeType"> <xs:annotation> <xs:documentation>The stoichiometry range of a participant.</xs:documentation> </xs:annotation> <xs:attribute name="minValue" type="xs:int" use="required"> <xs:annotation> <xs:documentation>The minimum stoichiometry value</xs:documentation> </xs:annotation> </xs:attribute> <xs:attribute name="maxValue" type="xs:int" use="required"> <xs:annotation> <xs:documentation>The maximum stoichiometry value</xs:documentation> </xs:annotation> </xs:attribute> </xs:complexType></pre>																									

Complex Type mif:inferredInteractionList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Describes inferred interactions, usually combining data from more than one experiment. Examples: 1: Show the topology of binary interactions within a complex. 2: Interaction inferred from multiple experiments which on their own would not support the interaction. Example: A-B in experiment 1, B-C- in experiment 2, A-C is the inferred interaction.
Diagram	
Used by	Element mif:interaction/mif:inferredInteractionList
Model	mif:inferredInteraction+
Children	mif:inferredInteraction
Source	<pre><xs:complexType name="inferredInteractionList"> <xs:annotation> <xs:documentation>Describes inferred interactions, usually combining data from more than one experiment. Examples: 1: Show the topology of binary interactions within a complex. 2: Interaction inferred from multiple experiments which on their own would not support the interaction. Example: A-B in experiment 1, B-C- in experiment 2, A-C is the inferred interaction.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="inferredInteraction" type="mif:inferredInteraction" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType></pre>

Complex Type mif:inferredInteraction

Namespace	http://psi.hupo.org/mi/mif300
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Diagram	
Used by	Element mif:inferredInteractionList/mif:inferredInteraction
Model	mif:participant{2,unbounded} , mif:experimentRefList{0,1}
Children	mif:experimentRefList, mif:participant
Source	<pre><xs:complexType name="inferredInteraction"> <xs:sequence> <xs:element name="participant" type="mif:inferredInteractionParticipant" minOccurs="2" maxOccurs="unbounded" /> <xs:element name="experimentRefList" type="mif:experimentRefList" minOccurs="0" /> </xs:sequence> </xs:complexType></pre>

Complex Type mif:inferredInteractionParticipant

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Participant of the inferred interaction.
Diagram	
Used by	Element mif:inferredInteraction/mif:participant
Model	mif:participantRef mif:participantFeatureRef
Children	mif:participantFeatureRef, mif:participantRef
Source	<pre><xs:complexType name="inferredInteractionParticipant"> <xs:annotation> <xs:documentation>Participant of the inferred interaction.</xs:documentation> </xs:annotation> <xs:choice> <xs:element name="participantRef" type="xs:int" /> <xs:element name="participantFeatureRef" type="xs:int" /> </xs:choice> </xs:complexType></pre>

Complex Type mif:experimentalVariableValueList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A list of experimental parameter/condition values for which the interaction occurs.
Diagram	
Used by	Element mif:interaction/mif:experimentalVariableValueList
Model	mif:experimentalVariableValues+
Children	mif:experimentalVariableValues
Source	<pre><xs:complexType name="experimentalVariableValueList"> <xs:annotation> <xs:documentation>A list of experimental parameter/condition values for which the interaction occurs.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="experimentalVariableValues" minOccurs="1" maxOccurs="unbounded" type="mif:experimentalVariableValues" /> <xs:annotation> <xs:documentation>A set of experimental parameter/conditions values applied together and for which this interaction occurs.</xs:documentation> </xs:annotation> <xs:element /> </xs:sequence> </xs:complexType></pre>

Complex Type mif:experimentalVariableValues

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A set of experimental parameter/conditions values applied together and for which this interaction occurs.
Diagram	<pre> graph LR EV[experimentalVariableValues] -- "1..*" --> VVR[variableValueRef] EV --- EV_desc["A set of experimental parameter/conditions values applied together and for which this interaction occurs."] VVR --- VVR_desc["The reference to the id of the variableValue described in the..."] </pre>
Used by	Element mif:experimentalVariableValueList/mif:experimentalVariableValues
Model	mif:variableValueRef+
Children	mif:variableValueRef
Source	<pre> <xss:complexType name="experimentalVariableValues"> <xss:annotation> <xss:documentation>A set of experimental parameter/conditions values applied together and for which this interaction occurs.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="variableValueRef" minOccurs="1" maxOccurs="unbounded" type="xs:int"> <xss:annotation> <xss:documentation>The reference to the id of the variableValue described in the variableParameterList/variableParameter/variableParameterValueList of the experiment.</xss:documentation> </xss:annotation> </xss:element> </xss:sequence> </xss:complexType> </pre>

Complex Type mif:causalRelationshipList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A list of causal relationships involving participants in a specific interaction.
Diagram	<pre> graph LR CRL[causalRelationshipList] -- "1..*" --> CR[causalRelationship] CRL --- CRL_desc["A list of causal relationships involving participants in a specific interaction."] CR --- CR_desc["The causal relationship between a participant source and a participant target."] </pre>
Used by	Elements mif:abstractInteraction/mif:causalRelationshipList, mif:interaction/mif:causalRelationshipList
Model	mif:causalRelationship+
Children	mif:causalRelationship
Source	<pre> <xss:complexType name="causalRelationshipList"> <xss:annotation> <xss:documentation>A list of causal relationships involving participants in a specific interaction.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="causalRelationship" type="mif:causalRelationship" minOccurs="1" maxOccurs="unbounded"> <xss:annotation> <xss:documentation>The causal relationship between a participant source and a participant target.</xss:documentation> </xss:annotation> </xss:element> </xss:sequence> </xss:complexType> </pre>

Complex Type mif:causalRelationship

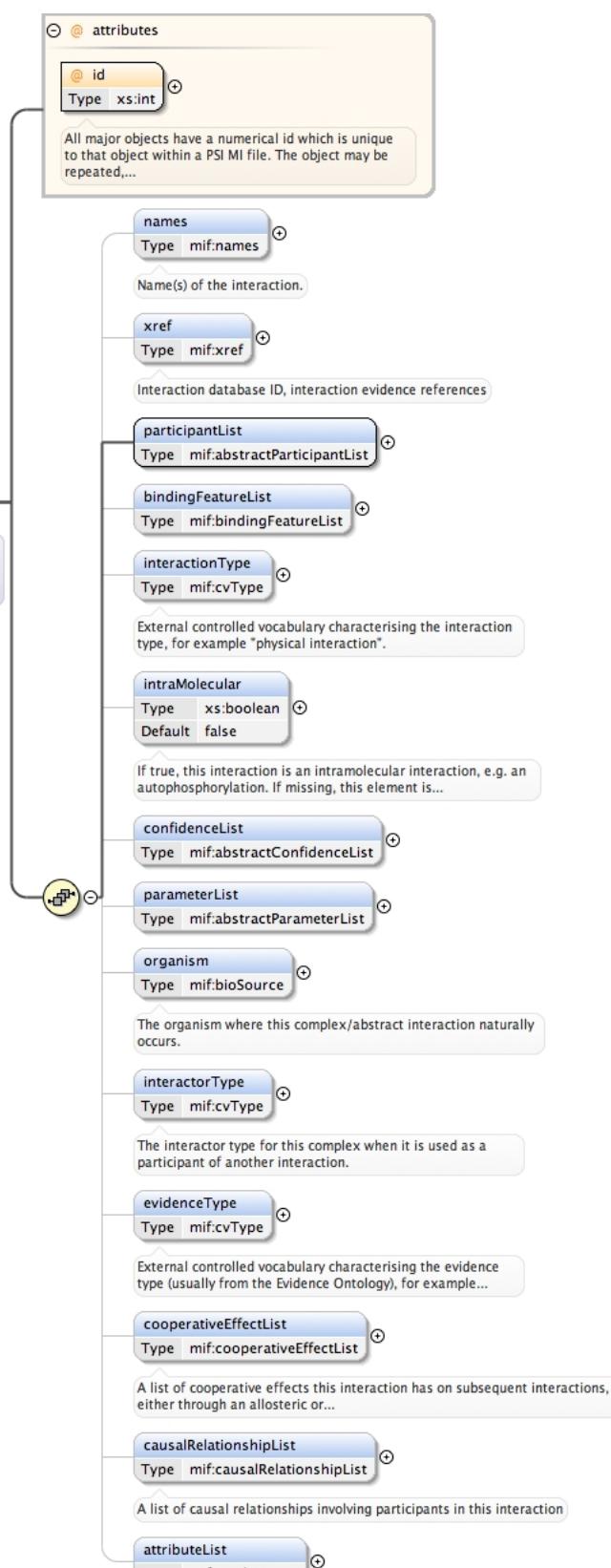
Namespace	http://psi.hupo.org/mi/mif300
Annotations	The causal relationship between a participant source and a participant target.

Diagram	<pre> classDiagram class causalRelationship { sourceParticipantRef : xs:int causalityStatement : mif:openCvType targetParticipantRef : xs:int } </pre> <p>The causal relationship between a participant source and a participant target.</p>
Used by	Element mif:causalRelationshipList/mif:causalRelationship
Model	mif:sourceParticipantRef , mif:causalityStatement , mif:targetParticipantRef
Children	mif:causalityStatement, mif:sourceParticipantRef, mif:targetParticipantRef
Source	<pre> <xs:complexType name="causalRelationship"> <xs:annotation> <xs:documentation>The causal relationship between a participant source and a participant target.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="sourceParticipantRef" type="xs:int" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>Refers to the participant that is the source of the causality statement.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="causalityStatement" type="mif:openCvType" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>The causality statement. Allows to reference an external controlled vocabulary, or to directly include a value if no suitable external definition is available.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="targetParticipantRef" type="xs:int" minOccurs="1" maxOccurs="1"> <xs:annotation> <xs:documentation>Refers to the participant that is the target of the causality statement.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:abstractInteraction

Namespace	http://psi.hupo.org/mi/mif300
Annotations	An 'abstract' molecular interaction - e.g - stable complexes, allosteric interaction, These interactions are abstracted from their experimental context and represent biological entities.

Diagram



Used by	Element <code>mif:interactionList/mif:abstractInteraction</code>
Model	<code>mif:names{0,1}</code> , <code>mif:xref{0,1}</code> , <code>mif:participantList</code> , <code>mif:bindingFeatureList{0,1}</code> , <code>mif:interactionType{0,1}</code> , <code>mif:intraMolecular{0,1}</code> , <code>mif:confidenceList{0,1}</code> , <code>mif:parameterList{0,1}</code> , <code>mif:organism{0,1}</code> , <code>mif:interactorType{0,1}</code> , <code>mif:evidenceType{0,1}</code> , <code>mif:cooperativeEffectList{0,1}</code> , <code>mif:causalRelationshipList{0,1}</code> , <code>mif:attributeList{0,1}</code>

Children	mif:attributeList, mif:bindingFeatureList, mif:causalRelationshipList, mif:confidenceList, mif:cooperativeEffectList, mif:evidenceType, mif:interactionType, mif:interactorType, mif:intraMolecular, mif:names, mif:organism, mif:parameterList, mif:participantList, mif:xref					
Attributes	QName id	Type xs:int	Fixed 	Default 	Use required	
Source	<pre> <xs:complexType name="abstractInteraction"> <xs:annotation> <xs:documentation>An 'abstract' molecular interaction - e.g - stable complexes, allosteric interaction, These interactions are abstracted from their experimental context and represent biological entities.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>Name(s) of the interaction.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>Interaction database ID, interaction evidence references</xs:documentation> </xs:annotation> </xs:element> <xs:element name="participantList" type="mif:abstractParticipantList" /> <xs:element name="bindingFeatureList" type="mif:bindingFeatureList" minOccurs="0" /> <xs:element name="interactionType" type="mif:cvType" minOccurs="0"> <xs:annotation> <xs:documentation>External controlled vocabulary characterising the interaction type, for example "physical interaction".</xs:documentation> </xs:annotation> </xs:element> <xs:element name="intraMolecular" type="xs:boolean" default="false" minOccurs="0"> <xs:annotation> <xs:documentation>If true, this interaction is an intramolecular interaction, e.g. an autophosphorylation. If missing, this element is assumed to be false.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="confidenceList" type="mif:abstractConfidenceList" minOccurs="0" /> <xs:element name="parameterList" type="mif:abstractParameterList" minOccurs="0" /> <xs:element name="organism" type="mif:bioSource" minOccurs="0"> <xs:annotation> <xs:documentation>The organism where this complex/abstract interaction naturally occurs.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="interactorType" type="mif:cvType" minOccurs="0"> <xs:annotation> <xs:documentation>The interactor type for this complex when it is used as a participant of another interaction.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="evidenceType" type="mif:cvType" minOccurs="0"> <xs:annotation> <xs:documentation>External controlled vocabulary characterising the evidence type (usually from the Evidence Ontology), for example "physical interaction evidence, inferred from literature".</xs:documentation> </xs:annotation> </xs:element> <xs:element name="cooperativeEffectList" type="mif:cooperativeEffectList" minOccurs="0" /> <xs:annotation> <xs:documentation>A list of cooperative effects this interaction has on subsequent interactions, either through an allosteric or pre-assembly effect.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="causalRelationshipList" type="mif:causalRelationshipList" minOccurs="0" /> <xs:annotation> <xs:documentation>A list of causal relationships involving participants in this interaction.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="attributeList" type="mif:attributeList" minOccurs="0" /> </xs:sequence> <xs:attribute name="id" type="xs:int" use="required"> <xs:annotation> </pre>	All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.				

```

<xs:documentation>All major objects have a numerical id which is unique to that object within
a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</
xs:documentation>
</xs:annotation>
</xs:attribute>
</xs:complexType>
```

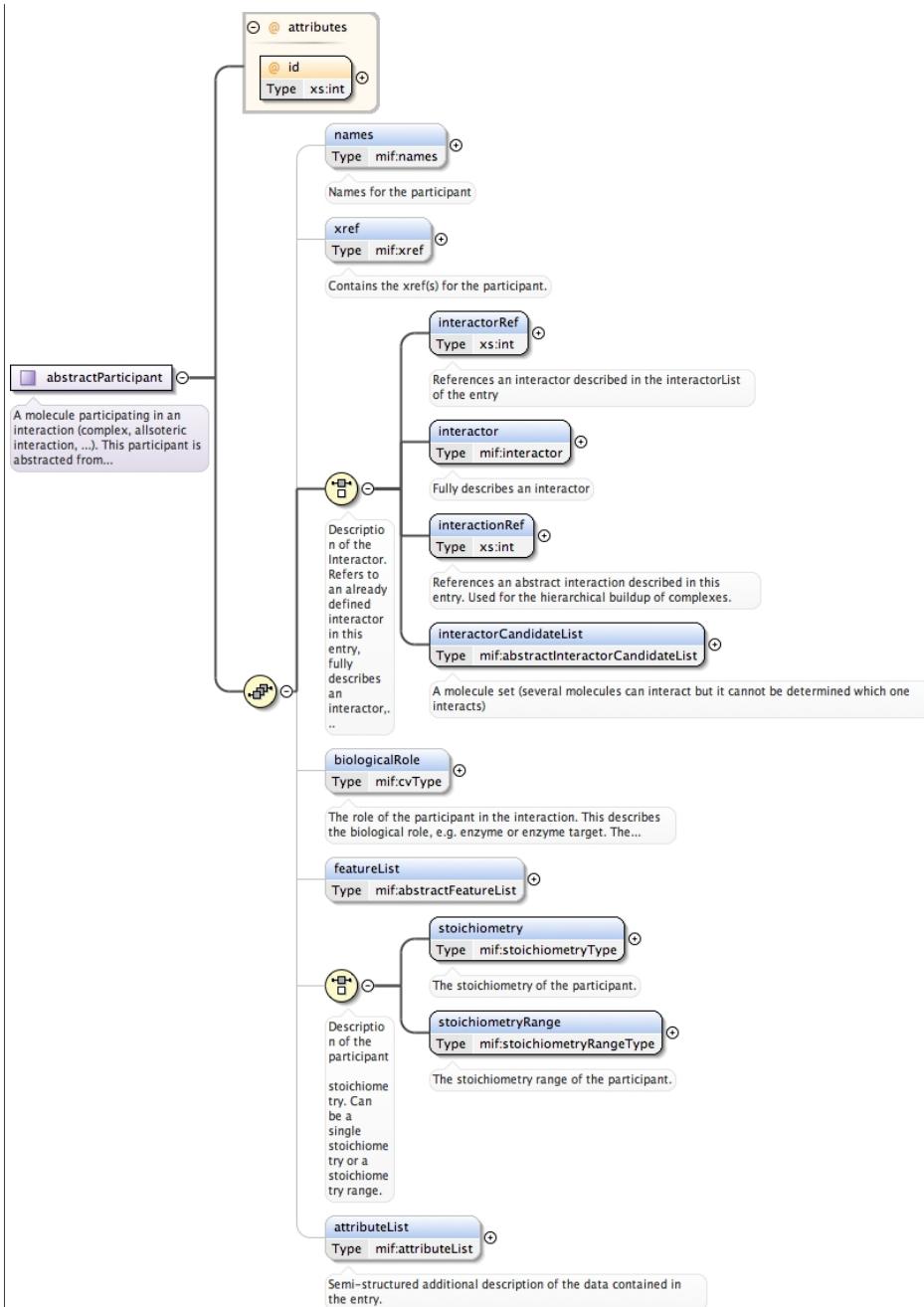
Complex Type mif:abstractParticipantList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A list of molecules participating in an abstract interaction. A complex has one (homo-dimers), two (binary), or more (complexes) participants. As the interaction is abstracted from the experimental context, the participants are also abstracted from any experimental context.
Diagram	<pre> sequenceDiagram participant abstractParticipantList participant participant abstractParticipantList->>participant: 1..∞ participant-->>abstractParticipantList: Type mif:abstractParticipant note over abstractParticipantList: A list of molecules participating in an abstract interaction. A complex has one (homo-dimers), two (binary), or more... </pre>
Used by	Element mif:abstractInteraction/mif:participantList
Model	mif:participant+
Children	mif:participant
Source	<pre> <xs:complexType name="abstractParticipantList"> <xs:annotation> <xs:documentation>A list of molecules participating in an abstract interaction. A complex has one (homo-dimers), two (binary), or more (complexes) participants. As the interaction is abstracted from the experimental context, the participants are also abstracted from any experimental context.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="participant" type="mif:abstractParticipant" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType></pre>

Complex Type mif:abstractParticipant

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A molecule participating in an interaction (complex, allsoteric interaction, ...). This participant is abstracted from its experimental context.

Diagram



Used by	Element <code>mif:abstractParticipantList/mif:participant</code>				
Model	<code>mif:names{0,1}</code> , <code>mif:xref{0,1}</code> , (<code>mif:interactorRef</code> <code>mif:interactor</code> <code>mif:interactionRef</code> <code>mif:interactorCandidateList</code>) , <code>mif:biologicalRole{0,1}</code> , <code>mif:featureList{0,1}</code> , (<code>mif:stoichiometry</code> <code>mif:stoichiometryRange</code>) , <code>mif:attributeList{0,1}</code>				
Children	<code>mif:attributeList</code> , <code>mif:biologicalRole</code> , <code>mif:featureList</code> , <code>mif:interactionRef</code> , <code>mif:interactor</code> , <code>mif:interactorCandidateList</code> , <code>mif:interactorRef</code> , <code>mif:names</code> , <code>mif:stoichiometry</code> , <code>mif:stoichiometryRange</code> , <code>mif:xref</code>				
Attributes	QName	Type	Fixed	Default	Use
	<code>id</code>	xs:int			required
Source	<pre> <xss:complexType name="abstractParticipant"> <xss:annotation> <xss:documentation>A molecule participating in an interaction (complex, allosteric interaction, ...). This participant is abstracted from its experimental context.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="names" type="mif:names" minOccurs="0"> <xss:annotation> <xss:documentation>Names for the participant</xss:documentation> </xss:annotation> </xss:element> </xss:sequence> </xss:complexType> </pre>				

```

<xs:element name="xref" type="mif:xref" minOccurs="0">
    <xs:annotation>
        <xs:documentation>Contains the xref(s) for the participant.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:choice>
    <xs:annotation>
        <xs:documentation>Description of the Interactor. Refers to an already defined interactor in this entry, fully describes an interactor, references another interaction defined in this entry, to allow the hierarchical building up of complexes from subunits, or describe a molecule set (several molecules can interact but it cannot be determined which one interacts)..</xs:documentation>
    </xs:annotation>
    <xs:element name="interactorRef" type="xs:int">
        <xs:annotation>
            <xs:documentation>References an interactor described in the interactorList of the entry</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="interactor" type="mif:interactor">
        <xs:annotation>
            <xs:documentation>Fully describes an interactor</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="interactionRef" type="xs:int">
        <xs:annotation>
            <xs:documentation>References an abstract interaction described in this entry. Used for the hierarchical buildup of complexes.</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="interactorCandidateList" type="mif:abstractInteractorCandidateList">
        <xs:annotation>
            <xs:documentation>A molecule set (several molecules can interact but it cannot be determined which one interacts)</xs:documentation>
        </xs:annotation>
    </xs:element>
</xs:choice>
<xs:element name="biologicalRole" type="mif:cvType" minOccurs="0">
    <xs:annotation>
        <xs:documentation>The role of the participant in the interaction. This describes the biological role, e.g. enzyme or enzyme target. The experimental role of the participant, e.g. 'bait', is shown in experimentalForm. This element is controlled by the PSI-MI controlled vocabulary "biologicalRole", root term id MI:0500.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="featureList" type="mif:abstractFeatureList" minOccurs="0"/>
<xs:choice minOccurs="0">
    <xs:annotation>
        <xs:documentation>Description of the participant stoichiometry. Can be a single stoichiometry or a stoichiometry range.</xs:documentation>
    </xs:annotation>
    <xs:element name="stoichiometry" type="mif:stoichiometryType">
        <xs:annotation>
            <xs:documentation>The stoichiometry of the participant.</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="stoichiometryRange" type="mif:stoichiometryRangeType">
        <xs:annotation>
            <xs:documentation>The stoichiometry range of the participant.</xs:documentation>
        </xs:annotation>
    </xs:element>
</xs:choice>
<xs:element name="attributeList" type="mif:attributeList" minOccurs="0">
    <xs:annotation>
        <xs:documentation>Semi-structured additional description of the data contained in the entry.</xs:documentation>
    </xs:annotation>
</xs:element>
</xs:sequence>
<xs:attribute name="id" type="xs:int" use="required"/>
</xs:complexType>

```

Complex Type **mif:abstractInteractorCandidateList**

Namespace	http://psi.hupo.org/mi/mif300
Annotations	The list of interactor candidates.

Diagram	<pre> classDiagram class abstractInteractorCandidateList { <<The list of interactor candidates.>> } class moleculeSetType { <<The type of molecule set, e.g. candidate set, defined set, ... This element is controlled by the PSI-MI controlled vocabulary "moleculeSet", root term id MI:1304.>> } class interactorCandidate { <<Type mif:abstractParticipantCandidate>> } abstractInteractorCandidateList "1..oo" --> "1..1" moleculeSetType abstractInteractorCandidateList "1..oo" --> "1..oo" interactorCandidate </pre>
Used by	Element mif:abstractParticipant/mif:interactorCandidateList
Model	mif:moleculeSetType , mif:interactorCandidate+
Children	mif:interactorCandidate, mif:moleculeSetType
Source	<pre> <xss:complexType name="abstractInteractorCandidateList"> <xss:annotation> <xss:documentation>The list of interactor candidates.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="moleculeSetType" type="mif:cvType" minOccurs="1"> <xss:annotation> <xss:documentation>The type of molecule set, e.g. candidate set, defined set, ... This element is controlled by the PSI-MI controlled vocabulary "moleculeSet", root term id MI:1304.</xss:documentation> </xss:annotation> </xss:element> <xss:element name="interactorCandidate" type="mif:abstractParticipantCandidate" maxOccurs="unbounded" minOccurs="1"/> </xss:sequence> </xss:complexType> </pre>

Complex Type mif:abstractParticipantCandidate

Namespace	http://psi.hupo.org/mi/mif300										
Diagram	<pre> classDiagram class abstractParticipantCandidate { <<Base Type mif:participantCandidateParent>> } class mif:participantCandidateParent { <<extension base>> @attributes @id xs:int } abstractParticipantCandidate --> mif:participantCandidateParent abstractParticipantCandidate --> featureList abstractParticipantCandidate --> interactor abstractParticipantCandidate --> InteractorRef </pre> <p>A molecule which is part of a molecule set (MI:1304) participating in an interaction. This molecule does not interact...</p>										
Type	extension of mif:participantCandidateParent										
Type hierarchy	<ul style="list-style-type: none"> mif:participantCandidateParent <ul style="list-style-type: none"> mif:abstractParticipantCandidate 										
Used by	Element mif:abstractInteractorCandidateList/mif:interactorCandidate										
Model	(mif:interactorRef mif:interactor) , mif:featureList{0,1}										
Children	mif:featureList, mif:interactor, mif:interactorRef										
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>xs:int</td> <td></td> <td></td> <td>required</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	id	xs:int			required
QName	Type	Fixed	Default	Use							
id	xs:int			required							
Source	<pre> <xss:complexType name="abstractParticipantCandidate"> <xss:complexContent> </pre>										

```

<xs:extension base="mif:participantCandidateParent">
  <xs:sequence>
    <xs:element name="featureList" type="mif:abstractFeatureList" minOccurs="0"/>
  </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

Complex Type mif:abstractFeatureList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Sequence features relevant for the abstract interaction. These features are abstracted from any experimental context and are usually binding sites, variants, etc..
Diagram	<p>Sequence features relevant for the abstract interaction. These features are abstracted from any experimental context...</p>
Used by	Elements mif:abstractParticipant/mif:featureList, mif:abstractParticipantCandidate/mif:featureList
Model	mif:feature+
Children	mif:feature
Source	<pre> <xs:complexType name="abstractFeatureList"> <xs:annotation> <xs:documentation>Sequence features relevant for the abstract interaction. These features are abstracted from any experimental context and are usually binding sites, variants, etc...</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="feature" type="mif:abstractFeature" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:abstractFeature

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A biological feature, e.g. domain, on a sequence.
Diagram	<p>@ attributes</p> <p>@ id Type xs:int</p> <p>names Type mif:names</p> <p>xref Type mif:xref</p> <p>featureType Type mif:cvType</p> <p>featureRangeList</p> <p>featureRole Type mif:cvType</p> <p>attributeList Type mif:attributeList</p> <p>A biological feature, e.g. domain, on a sequence.</p> <p>Names for the feature, e.g. SH3 domain.</p> <p>Reference to an external feature description, for example InterPro entry.</p> <p>Description and classification of the feature. This element is controlled by the PSI-MI controlled vocabulary...</p> <p>The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the...</p> <p>Semi-structured additional description of the data contained in the entry.</p>

Used by	Element	mif:abstractFeatureList/mif:feature			
Model		mif:names{0,1} , mif:xref{0,1} , mif:featureType{0,1} , mif:featureRangeList , mif:featureRole{0,1} , mif:attributeList{0,1}			
Children		mif:attributeList, mif:featureRangeList, mif:featureRole, mif:featureType, mif:names, mif:xref			
Attributes	QName	Type	Fixed	Default	Use
	id	xs:int			required
Source	<pre> <xs:complexType name="abstractFeature"> <xs:annotation> <xs:documentation>A biological feature, e.g. domain, on a sequence.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="names" type="mif:names" minOccurs="0"> <xs:annotation> <xs:documentation>Names for the feature, e.g. SH3 domain.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="xref" type="mif:xref" minOccurs="0"> <xs:annotation> <xs:documentation>Reference to an external feature description, for example InterPro entry.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="featureType" type="mif:cvType" maxOccurs="1" minOccurs="0"> <xs:annotation> <xs:documentation>Description and classification of the feature. This element is controlled by the PSI-MI controlled vocabulary "feature", root term id MI:0116.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="featureRangeList"> <xs:complexType> <xs:sequence> <xs:element name="featureRange" type="mif:baseLocation" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Location of the feature on the sequence of the interactor. One feature may have more than one featureRange, used e.g. for features which involve sequence positions close in the folded, three-dimensional state of a protein, but non-continuous along the sequence.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </xs:element> <xs:element name="featureRole" type="mif:cvType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>The role of the feature in the context of this interaction. It usually describes the impact of the interaction on the feature. (Ex: resulting-ptm, ...) or the impact of the feature on the interaction. (Ex: prerequisite-ptm,...).</xs:documentation> </xs:annotation> </xs:element> <xs:element name="attributeList" type="mif:attributeList" minOccurs="0"> <xs:annotation> <xs:documentation>Semi-structured additional description of the data contained in the entry.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> <xs:attribute name="id" type="xs:int" use="required"/> </xs:complexType></pre>				

Complex Type mif:bindingFeatureList

Namespace	http://psi.hupo.org/mi/mif300	
Annotations	Show the topology of interactions within a complex.	
Diagram	<p>bindingFeatureList</p> <p>bindingFeatures</p> <p>Type mif:bindingFeatures</p> <p>Show the topology of interactions within a complex.</p>	
Used by	Element	mif:abstractInteraction/mif:bindingFeatureList
Model		mif:bindingFeatures+
Children		mif:bindingFeatures
Source	<pre> <xs:complexType name="bindingFeatureList"> <xs:annotation> <xs:documentation>Show the topology of interactions within a complex.</xs:documentation> </xs:annotation> </xs:complexType></pre>	

```

</xs:annotation>
<xs:sequence>
  <xs:element name="bindingFeatures" type="mif:bindingFeatures" maxOccurs="unbounded" />
</xs:sequence>
</xs:complexType>

```

Complex Type mif:bindingFeatures

Namespace	http://psi.hupo.org/mi/mif300
Annotations	List all the features reported in the complex that are linked to each other.
Diagram	<p>List all the features reported in the complex that are linked to each other.</p>
Used by	Element mif:bindingFeatureList/mif:bindingFeatures
Model	mif:participantFeatureRef{2,unbounded}
Children	mif:participantFeatureRef
Source	<pre> <xs:complexType name="bindingFeatures"> <xs:annotation> <xs:documentation>List all the features reported in the complex that are linked to each other.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="participantFeatureRef" type="xs:int" minOccurs="2" maxOccurs="unbounded" /> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:abstractConfidenceList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A list of confidence values for a complex or abstract interaction. These confidences can refer to their original publications.
Diagram	<p>A list of confidence values for a complex or abstract interaction. These confidences can refer to their original...</p>
Used by	Element mif:abstractInteraction/mif:confidenceList
Model	mif:confidence+
Children	mif:confidence
Source	<pre> <xs:complexType name="abstractConfidenceList"> <xs:annotation> <xs:documentation>A list of confidence values for a complex or abstract interaction. These confidences can refer to their original publications.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="confidence" type="mif:abstractConfidence" maxOccurs="unbounded" /> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:abstractConfidence

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A confidence value for a complex or other 'abstract' interaction. It can refer to its original publication/review.
Diagram	<p>A confidence value for a complex or other 'abstract' interaction. It can refer to its original publication/review.</p>

Used by	Element mif:abstractConfidenceList/mif:confidence
Model	mif:type , mif:value , mif:bibref{0,1}
Children	mif:bibref, mif:type, mif:value
Source	<pre><xss:complexType name="abstractConfidence"> <xss:annotation> <xss:documentation>A confidence value for a complex or other 'abstract' interaction. It can refer to its original publication/review.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="type" type="mif:openCvType"/> <xss:element name="value"> <xss:simpleType> <xss:restriction base="xs:string"> <xss:minLength value="1"/> </xss:restriction> </xss:simpleType> </xss:element> <xss:element name="bibref" type="mif:bibref" minOccurs="0"/> </xss:sequence> </xss:complexType></pre>

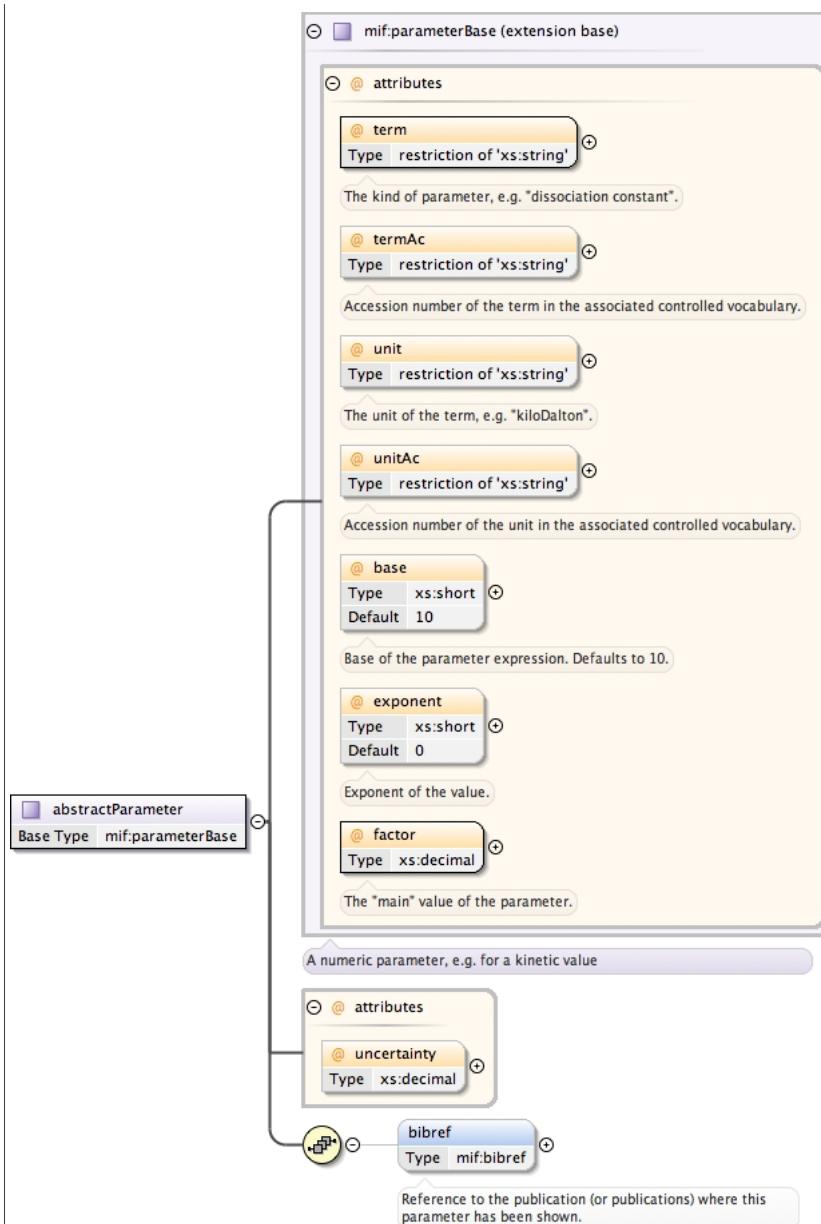
Complex Type mif:abstractParameterList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Lists parameters which are relevant for the complex/abstract interaction, e.g. kinetics. These parameters can refer to their original publication.
Diagram	<p>Lists parameters which are relevant for the complex/abstract interaction, e.g. kinetics. These parameters can refer to...</p>
Used by	Element mif:abstractInteraction/mif:parameterList
Model	mif:parameter+
Children	mif:parameter
Source	<pre><xss:complexType name="abstractParameterList"> <xss:annotation> <xss:documentation>Lists parameters which are relevant for the complex/abstract interaction, e.g. kinetics. These parameters can refer to their original publication.</xss:documentation> </xss:annotation> <xss:sequence> <xss:element name="parameter" type="mif:abstractParameter" maxOccurs="unbounded"/> </xss:sequence> </xss:complexType></pre>

Complex Type mif:abstractParameter

Namespace	http://psi.hupo.org/mi/mif300
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Diagram



Type	extension of mif:parameterBase																																																		
Type hierarchy	<ul style="list-style-type: none"> • mif:parameterBase • mif:abstractParameter 																																																		
Used by	Element mif:abstractParameterList/mif:parameter																																																		
Model	mif:bibref{0,1}																																																		
Children	mif:bibref																																																		
Attributes	<table border="1"> <thead> <tr> <th>QName</th> <th>Type</th> <th>Fixed</th> <th>Default</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>base</td> <td>xs:short</td> <td></td> <td>10</td> <td>optional</td> </tr> <tr> <td></td> <td>Base of the parameter expression. Defaults to 10.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>exponent</td> <td>xs:short</td> <td></td> <td>0</td> <td>optional</td> </tr> <tr> <td></td> <td>Exponent of the value.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>factor</td> <td>xs:decimal</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td>The "main" value of the parameter.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>term</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>required</td> </tr> <tr> <td></td> <td>The kind of parameter, e.g. "dissociation constant".</td> <td></td> <td></td> <td></td> </tr> <tr> <td>termAc</td> <td>restriction of xs:string</td> <td></td> <td></td> <td>optional</td> </tr> </tbody> </table>	QName	Type	Fixed	Default	Use	base	xs:short		10	optional		Base of the parameter expression. Defaults to 10.				exponent	xs:short		0	optional		Exponent of the value.				factor	xs:decimal			required		The "main" value of the parameter.				term	restriction of xs:string			required		The kind of parameter, e.g. "dissociation constant".				termAc	restriction of xs:string			optional
QName	Type	Fixed	Default	Use																																															
base	xs:short		10	optional																																															
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factor	xs:decimal			required																																															
	The "main" value of the parameter.																																																		
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	The kind of parameter, e.g. "dissociation constant".																																																		
termAc	restriction of xs:string			optional																																															

QName	Type	Fixed	Default	Use	
	Accession number of the term in the associated controlled vocabulary.				
uncertainty	xs:decimal			optional	
unit	restriction of xs:string				
	The unit of the term, e.g. "kiloDalton".				
unitAc	restriction of xs:string			optional	
	Accession number of the unit in the associated controlled vocabulary.				
Source	<pre> <xs:complexType name="abstractParameter"> <xs:complexContent> <xs:extension base="mif:parameterBase"> <xs:sequence> <xs:element name="bibref" type="mif:bibref" minOccurs="0"> <xs:annotation> <xs:documentation>Reference to the publication (or publications) where this parameter has been shown.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> <xs:attribute name="uncertainty" type="xs:decimal" use="optional"/> </xs:extension> </xs:complexContent> </xs:complexType> </pre>				

Complex Type mif:cooperativeEffectList

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A list of cooperative effects this interaction has on subsequent interactions, either through an allosteric or pre-assembly effect.
Diagram	<p>The diagram illustrates the structure of the <code>mif:cooperativeEffectList</code> element. It is represented by a rectangle with a purple header containing a white square icon. This element is connected via a line with a hollow arrowhead to two rounded rectangles representing mechanisms: <code>allostery</code> (Type <code>mif:allostery</code>) and <code>preassembly</code> (Type <code>mif:cooperativeEffectType</code>). Each mechanism is accompanied by a descriptive text box: <code>allostery</code> says 'In case the cooperative mechanism is allostery.', and <code>preassembly</code> says 'In case the cooperative mechanism is pre-assembly.' A central text box states: 'The cooperative mechanism can be either allostery or pre-assembly.'</p>
Used by	Element <code>mif:abstractInteraction/mif:cooperativeEffectList</code>
Model	(<code>mif:allostery</code> <code>mif:preassembly</code>)
Children	<code>mif:allostery</code> , <code>mif:preassembly</code>
Source	<pre> <xs:complexType name="cooperativeEffectList"> <xs:annotation> <xs:documentation>A list of cooperative effects this interaction has on subsequent interactions, either through an allosteric or pre-assembly effect.</xs:documentation> </xs:annotation> <xs:sequence> <xs:choice minOccurs="1" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>The cooperative mechanism can be either allostery or pre-assembly.</xs:documentation> </xs:annotation> <xs:element name="allostery" type="mif:allostery"> <xs:annotation> <xs:documentation>In case the cooperative mechanism is allostery.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="preassembly" type="mif:cooperativeEffectType"> <xs:annotation> <xs:documentation>In case the cooperative mechanism is pre-assembly.</xs:documentation> </xs:annotation> </xs:element> </xs:choice> </xs:sequence> </xs:complexType> </pre>

Complex Type mif:allostery

Namespace	http://psi.hupo.org/mi/mif300
Annotations	In case the cooperative mechanism is allostery.
Diagram	<pre> classDiagram class mif:cooperativeEffectType { cooperativityEvidenceList affectedInteractionList cooperativeEffectOutcome cooperativeEffectResponse attributeList } class allostery { allostericMoleculeRef } mif:cooperativeEffectType < -- allostery </pre>
Type	extension of mif:cooperativeEffectType
Type hierarchy	<ul style="list-style-type: none"> mif:cooperativeEffectType mif:allostery
Used by	Element mif:cooperativeEffectList/mif:allostery
Model	mif:cooperativityEvidenceList , mif:affectedInteractionList , mif:cooperativeEffectOutcome , mif:cooperativeEffectResponse{0,1} , mif:attributeList{0,1} , mif:allostericMoleculeRef , (mif:allostericEffectorRef mif:allostericModificationRef) , mif:allostericMechanism{0,1} , mif:allosteryType{0,1}
Children	mif:affectedInteractionList, mif:allostericEffectorRef, mif:allostericMechanism, mif:allostericModificationRef, mif:allostericMoleculeRef, mif:allosteryType, mif:attributeList, mif:cooperativeEffectOutcome, mif:cooperativeEffectResponse, mif:cooperativityEvidenceList
Source	<pre> <xs:complexType name="allostery"> <xs:annotation> <xs:documentation>In case the cooperative mechanism is allostery.</xs:documentation> </xs:annotation> <xs:complexContent> <xs:extension base="mif:cooperativeEffectType"> <xs:sequence> <xs:element name="allostericMoleculeRef" type="xs:int" minOccurs="1" maxOccurs="1"> <xs:annotation> ... </xs:annotation> </xs:element> </xs:sequence> </xs:extension> </xs:complexContent> </xs:complexType> </pre>

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<xs:documentation>Refers to the participant that is allosterically regulated.</xs:documentation>
</xs:annotation>
</xs:element>
<xs:choice minOccurs="1">
  <xs:element name="allostericEffectRef" type="xs:int" minOccurs="1" maxOccurs="1">
    <xs:annotation>
      <xs:documentation>Refers to the participant that elicits an allosteric response in an allosteric molecule upon binding to that molecule.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="allostericModificationRef" type="xs:int" minOccurs="1" maxOccurs="1">
    <xs:annotation>
      <xs:documentation>Refers to the modification (feature) that elicits an allosteric response in an allosteric molecule.</xs:documentation>
    </xs:annotation>
  </xs:element>
</xs:choice>
<xs:element name="allostericMechanism" type="mif:cvType" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Indicates the type of changes that occur in an allosteric molecule upon allosteric modification or binding of an allosteric effector and result in an allosteric response. This element is controlled by the PSI-MI controlled vocabulary "allosteric mechanism", root term id MI:1164.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="allosteryType" type="mif:cvType" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Indicates the chemical relationship between the ligands whose binding is allosterically coupled. This element is controlled by the PSI-MI controlled vocabulary "allostery type", root term id MI:1167.</xs:documentation>
  </xs:annotation>
</xs:element>
</xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

Complex Type mif:cooperativeEffectType

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A cooperative effect an interaction has on a subsequent interaction.
Diagram	<p>The diagram illustrates the structure of the <code>cooperativeEffectType</code> complex type. It features a central node labeled <code>cooperativeEffectType</code> with a purple square icon. Five associations radiate from this central node to other elements, each represented by a rounded rectangle with a plus sign (+) in the top right corner, indicating they are lists:</p> <ul style="list-style-type: none"> <code>cooperativityEvidenceList</code>: A list of experimental methods and publications from which the cooperative effect has been inferred. <code>affectedInteractionList</code>: A list of model interactions affected by this model interaction. <code>cooperativeEffectOutcome</code>: An element indicating whether the cooperative effect is positive (either induced or enhanced) or negative (either inhibited or...). It is typed as <code>mif:cvType</code>. <code>cooperativeEffectResponse</code>: An element indicating how the cooperative mechanism affects another interaction. It is typed as <code>mif:cvType</code>. <code>attributeList</code>: A semi-structured additional description of the data contained in the cooperative effect. It is typed as <code>mif:attributeList</code>. <p>Below the central node, a callout box provides the annotation: "A cooperative effect an interaction has on a subsequent interaction."</p>
Used by	Complex Type <code>mif:allostery</code> Element <code>mif:cooperativeEffectList/mif:preassembly</code>
Model	<code>mif:cooperativityEvidenceList , mif:affectedInteractionList , mif:cooperativeEffectOutcome , mif:cooperativeEffectResponse{0,1} , mif:attributeList{0,1}</code>
Children	<code>mif:affectedInteractionList, mif:attributeList, mif:cooperativeEffectOutcome, mif:cooperativeEffectResponse, mif:cooperativityEvidenceList</code>
Source	<pre> <xs:complexType name="cooperativeEffectType"> <xs:annotation> <xs:documentation>A cooperative effect an interaction has on a subsequent interaction.</xs:documentation> </xs:annotation> </pre>

```

</xs:annotation>
<xs:sequence>
  <xs:element name="cooperativityEvidenceList">
    <xs:annotation>
      <xs:documentation>List of experimental methods and publications from which this cooperative effect has been inferred.</xs:documentation>
    </xs:annotation>
    <xs:complexType>
      <xs:sequence>
        <xs:element name="cooperativityEvidenceDescription" type="mif:evidenceType" minOccurs="1" maxOccurs="unbounded">
          </xs:element>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="affectedInteractionList">
      <xs:annotation>
        <xs:documentation>List of model interactions affected by this model interaction.</xs:documentation>
      </xs:annotation>
      <xs:complexType>
        <xs:sequence>
          <xs:element name="affectedInteractionRef" type="xs:int" minOccurs="1" maxOccurs="unbounded">
            <xs:annotation>
              <xs:documentation>Refers to the model interaction that is affected by the current model interaction.</xs:documentation>
            </xs:annotation>
          </xs:element>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="cooperativeEffectOutcome" type="mif:cvType" minOccurs="1" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Indicates whether the cooperative effect is positive (either induced or enhanced) or negative (either inhibited or abrogated). This element is controlled by the PSI-MI controlled vocabulary "cooperative effect outcome" root term, id MI:1153.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="cooperativeEffectResponse" type="mif:cvType" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Indicates how the cooperative mechanism affects another interaction. This element is controlled by the PSI-MI controlled vocabulary "cooperative effect response" root term, id MI:.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="attributeList" type="mif:attributeList" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Semi-structured additional description of the data contained in the cooperative effect.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>

```

Complex Type mif:evidenceType

Namespace	http://psi.hupo.org/mi/mif300
Annotations	List of experimental methods and corresponding publication from which this cooperative effect has been inferred.
Diagram	<p>The diagram illustrates the UML class <code>evidenceType</code>. It has two associations: one to <code>bibref</code> (with multiplicity 0..1) and one to <code>evidenceMethodList</code> (with multiplicity 0..1). A callout box provides a detailed description: "List of experimental methods and corresponding publication from which this cooperative effect has been inferred." Another callout box specifies the type of the association to <code>bibref</code> as <code>mif:bibref</code>.</p>
Used by	Element mif:cooperativeEffectType/mif:cooperativityEvidenceList/mif:cooperativityEvidenceDescription
Model	mif:bibref , mif:evidenceMethodList{0,1}
Children	mif:bibref, mif:evidenceMethodList
Source	<pre> <xs:complexType name="evidenceType"> <xs:annotation> <xs:documentation>List of experimental methods and corresponding publication from which this cooperative effect has been inferred.</xs:documentation> </xs:annotation> </pre>

```

<xs:sequence>
  <xs:element name="bibref" type="mif:bibref" minOccurs="1" maxOccurs="1">
    <xs:annotation>
      <xs:documentation>Publication describing the experiments from which this cooperative effect has been inferred.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="evidenceMethodList" minOccurs="0">
    <xs:annotation>
      <xs:documentation>Experimental methods from which this cooperative effect has been inferred.</xs:documentation>
    </xs:annotation>
    <xs:complexType>
      <xs:sequence>
        <xs:element name="evidenceMethod" type="mif:cvType" minOccurs="1" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:sequence>
</xs:complexType>

```

Complex Type mif:label

Namespace	http://psi.hupo.org/mi/mif300
Annotations	A short alphanumeric label identifying an object. Not necessarily unique.
Diagram	<p>A short alphanumeric label identifying an object. Not necessarily unique.</p> <p>Built-in primitive type. The string datatype represents character strings in XML.</p>
Type	extension of xs:string
Source	<pre> <xs:complexType name="label"> <xs:annotation> <xs:documentation>A short alphanumeric label identifying an object. Not necessarily unique.</xs:documentation> </xs:annotation> <xs:simpleContent> <xs:extension base="xs:string" /> </xs:simpleContent> </xs:complexType> </pre>

Complex Type mif:fullName

Namespace	http://psi.hupo.org/mi/mif300
Annotations	Full, descriptive object name.
Diagram	<p>Full, descriptive object name.</p> <p>Built-in primitive type. The string datatype represents character strings in XML.</p>
Type	extension of xs:string
Source	<pre> <xs:complexType name="fullName"> <xs:annotation> <xs:documentation>Full, descriptive object name.</xs:documentation> </xs:annotation> <xs:simpleContent> <xs:extension base="xs:string" /> </xs:simpleContent> </xs:complexType> </pre>

Namespace: ""

Attribute(s)

Attribute mif:alias / @typeAc

Namespace	No namespace
Type	restriction of xs:string
Properties	use: optional

Facets	minLength	1
Used by	Complex Type	mif:alias
Source	<pre><xs:attribute name="typeAc" use="optional"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:alias / @type

Namespace	No namespace	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:alias
Source	<pre><xs:attribute name="type" use="optional"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:attribute / @name

Namespace	No namespace	
Annotations	The name of the attribute.	
Type	restriction of xs:string	
Properties	use: required	
Facets	minLength	1
Used by	Complex Type	mif:attribute
Source	<pre><xs:attribute name="name" use="required"> <xs:annotation> <xs:documentation>The name of the attribute.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:attribute / @nameAc

Namespace	No namespace	
Annotations	Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:attribute
Source	<pre><xs:attribute name="nameAc" use="optional"> <xs:annotation> <xs:documentation>Enables control of the attribute type through reference to an external controlled vocabulary. Root element in the PSI MI CV is MI:0590.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

<pre></xs:simpleType> </xs:attribute></pre>

Attribute mif:dbReference / @db

Namespace	No namespace	
Annotations	Name of the external database. Taken from the controlled vocabulary of databases.	
Type	restriction of xs:string	
Properties	use: required	
Facets	minLength	1
Used by	Complex Type	mif:dbReference
Source	<pre><xs:attribute name="db" use="required"> <xs:annotation> <xs:documentation>Name of the external database. Taken from the controlled vocabulary of databases.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:dbReference / @dbAc

Namespace	No namespace	
Annotations	Accession number of the database in the database CV. This element is controlled by the PSI-MI controlled vocabulary "database citation", root term id MI:0444.	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:dbReference
Source	<pre><xs:attribute name="dbAc" use="optional"> <xs:annotation> <xs:documentation>Accession number of the database in the database CV. This element is controlled by the PSI-MI controlled vocabulary "database citation", root term id MI:0444.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:dbReference / @id

Namespace	No namespace	
Annotations	Primary identifier of the object in the external database, e.g. UniProt accession number.	
Type	restriction of xs:string	
Properties	use: required	
Facets	minLength	1
Used by	Complex Type	mif:dbReference
Source	<pre><xs:attribute name="id" use="required"> <xs:annotation> <xs:documentation>Primary identifier of the object in the external database, e.g. UniProt accession number.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

<pre></xs:attribute></pre>

Attribute mif:dbReference / @secondary

Namespace	No namespace	
Annotations	Secondary identifier of the object in the external database, e.g. UniProt ID.	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:dbReference
Source	<pre><xs:attribute name="secondary" use="optional"> <xs:annotation> <xs:documentation>Secondary identifier of the object in the external database, e.g. UniProt ID.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:dbReference / @version

Namespace	No namespace	
Annotations	The version number of the object in the external database.	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:dbReference
Source	<pre><xs:attribute name="version" use="optional"> <xs:annotation> <xs:documentation>The version number of the object in the external database.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:dbReference / @refType

Namespace	No namespace	
Annotations	Reference type, e.g. "identity" if this reference refers to an identical object in the external database, or "see-also" for additional information. Controlled by CV.	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:dbReference
Source	<pre><xs:attribute name="refType" use="optional"> <xs:annotation> <xs:documentation>Reference type, e.g. "identity" if this reference refers to an identical object in the external database, or "see-also" for additional information. Controlled by CV.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:dbReference / @refTypeAc

Namespace	No namespace	
Annotations	Reference type accession number from the CV of reference types. This element is controlled by the PSI-MI controlled vocabulary "xref type", root term id MI:0353.	
Type	restriction of xs:string	
Properties	use:	optional
Facets	minLength	1
Used by	Complex Type	mif:dbReference
Source	<pre><xs:attribute name="refTypeAc" use="optional"> <xs:annotation> <xs:documentation>Reference type accession number from the CV of reference types. This element is controlled by the PSI-MI controlled vocabulary "xref type", root term id MI:0353.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:source / @release

Namespace	No namespace	
Type	restriction of xs:string	
Properties	use:	optional
Facets	minLength	1
Used by	Complex Type	mif:source
Source	<pre><xs:attribute name="release" use="optional"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:source / @releaseDate

Namespace	No namespace	
Type	xs:date	
Properties	use:	optional
Used by	Complex Type	mif:source
Source	<pre><xs:attribute name="releaseDate" type="xs:date" use="optional"/></pre>	

Attribute mif:availability / @id

Namespace	No namespace	
Type	xs:int	
Properties	use:	required
Used by	Complex Type	mif:availability
Source	<pre><xs:attribute name="id" type="xs:int" use="required"/></pre>	

Attribute mif:bioSource / @ncbiTaxID

Namespace	No namespace	
Type	xs:int	
Properties	use:	required

Used by	Complex Type	mif:bioSource
Source	<xs:attribute name="ncbiTaxId" type="xs:int" use="required"/>	

Attribute mif:variableValue / @id

Namespace	No namespace	
Annotations	Unique numerical identifier for this variableValue so an interaction can refer to it later. The id has to be unique within a same entry.	
Type	xs:int	
Properties	use: required	
Used by	Complex Type	mif:variableValue
Source	<xs:attribute name="id" type="xs:int" use="required"> <xs:annotation> <xs:documentation>Unique numerical identifier for this variableValue so an interaction can refer to it later. The id has to be unique within a same entry.</xs:documentation> </xs:annotation> </xs:attribute>	

Attribute mif:variableValue / @order

Namespace	No namespace	
Annotations	Optional numerical order attribute to give an explicit order for a variableValue in the variableValueList.	
Type	xs:int	
Properties	use: optional	
Used by	Complex Type	mif:variableValue
Source	<xs:attribute name="order" type="xs:int" use="optional"> <xs:annotation> <xs:documentation>Optional numerical order attribute to give an explicit order for a variableValue in the variableValueList.</xs:documentation> </xs:annotation> </xs:attribute>	

Attribute mif:experimentDescription / @id

Namespace	No namespace	
Annotations	All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.	
Type	xs:int	
Properties	use: required	
Used by	Complex Type	mif:experimentDescription
Source	<xs:attribute name="id" type="xs:int" use="required"> <xs:annotation> <xs:documentation>All major objects have a numerical id which must be unique to that object within an entry. The object may be repeated, though, e.g. in the denormalised representation.</xs:documentation> </xs:annotation> </xs:attribute>	

Attribute mif:interactor / @id

Namespace	No namespace	
Annotations	All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.	
Type	xs:int	
Properties	use: required	
Used by	Complex Type	mif:interactor
Source	<xs:attribute name="id" type="xs:int" use="required">	

	<pre> <xs:annotation> <xs:documentation>All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</xs:documentation> </xs:annotation> </xs:attribute></pre>
--	---

Attribute mif:participantCandidateParent / @id

Namespace	No namespace
Type	xs:int
Properties	use: required
Used by	Complex Type mif:participantCandidateParent
Source	<pre><xs:attribute name="id" type="xs:int" use="required"/></pre>

Attribute mif:position / @position

Namespace	No namespace
Type	xs:long
Properties	use: required
Used by	Complex Type mif:position
Source	<pre><xs:attribute name="position" type="xs:long" use="required"/></pre>

Attribute mif:interval / @begin

Namespace	No namespace
Type	xs:long
Properties	use: required
Used by	Complex Type mif:interval
Source	<pre><xs:attribute name="begin" type="xs:long" use="required"/></pre>

Attribute mif:interval / @end

Namespace	No namespace
Type	xs:long
Properties	use: required
Used by	Complex Type mif:interval
Source	<pre><xs:attribute name="end" type="xs:long" use="required"/></pre>

Attribute mif:parameterBase / @term

Namespace	No namespace
Annotations	The kind of parameter, e.g. "dissociation constant".
Type	restriction of xs:string
Properties	use: required
Facets	minLength 1
Used by	Complex Type mif:parameterBase
Source	<pre><xs:attribute name="term" use="required"> <xs:annotation> <xs:documentation>The kind of parameter, e.g. "dissociation constant".</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>

Attribute mif:parameterBase / @termAc

Namespace	No namespace	
Annotations	Accession number of the term in the associated controlled vocabulary.	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:parameterBase
Source	<pre><xs:attribute name="termAc" use="optional"> <xs:annotation> <xs:documentation>Accession number of the term in the associated controlled vocabulary.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:parameterBase / @unit

Namespace	No namespace	
Annotations	The unit of the term, e.g. "kiloDalton".	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:parameterBase
Source	<pre><xs:attribute name="unit" use="optional"> <xs:annotation> <xs:documentation>The unit of the term, e.g. "kiloDalton".</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:parameterBase / @unitAc

Namespace	No namespace	
Annotations	Accession number of the unit in the associated controlled vocabulary.	
Type	restriction of xs:string	
Properties	use: optional	
Facets	minLength	1
Used by	Complex Type	mif:parameterBase
Source	<pre><xs:attribute name="unitAc" use="optional"> <xs:annotation> <xs:documentation>Accession number of the unit in the associated controlled vocabulary.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> </xs:restriction> </xs:simpleType> </xs:attribute></pre>	

Attribute mif:parameterBase / @base

Namespace	No namespace
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Annotations	Base of the parameter expression. Defaults to 10.	
Type	xs:short	
Properties	use: optional default: 10	
Used by	Complex Type	mif:parameterBase
Source	<pre><xs:attribute name="base" type="xs:short" use="optional" default="10"> <xs:annotation> <xs:documentation>Base of the parameter expression. Defaults to 10.</xs:documentation> </xs:annotation> </xs:attribute></pre>	

Attribute mif:parameterBase / @exponent

Namespace	No namespace
Annotations	Exponent of the value.
Type	xs:short
Properties	use: optional default: 0
Used by	Complex Type
Source	<pre><xs:attribute name="exponent" type="xs:short" use="optional" default="0"> <xs:annotation> <xs:documentation>Exponent of the value.</xs:documentation> </xs:annotation> </xs:attribute></pre>

Attribute mif:parameterBase / @factor

Namespace	No namespace
Annotations	The "main" value of the parameter.
Type	xs:decimal
Properties	use: required
Used by	Complex Type
Source	<pre><xs:attribute name="factor" type="xs:decimal" use="required"> <xs:annotation> <xs:documentation>The "main" value of the parameter.</xs:documentation> </xs:annotation> </xs:attribute></pre>

Attribute mif:parameter / @uncertainty

Namespace	No namespace
Type	xs:decimal
Properties	use: optional
Used by	Complex Type
Source	<pre><xs:attribute name="uncertainty" type="xs:decimal" use="optional"/></pre>

Attribute mif:feature / @id

Namespace	No namespace
Type	xs:int
Properties	use: required
Used by	Complex Type
Source	<pre><xs:attribute name="id" type="xs:int" use="required"/></pre>

Attribute mif:stoichiometryType / @value

Namespace	No namespace
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Annotations	The participant stoichiometry value	
Type	xs:int	
Properties	use: required	
Used by	Complex Type	mif:stoichiometryType
Source	<pre><xs:attribute name="value" type="xs:int" use="required"> <xs:annotation> <xs:documentation>The participant stoichiometry value</xs:documentation> </xs:annotation> </xs:attribute></pre>	

Attribute mif:stoichiometryRangeType / @minValue

Namespace	No namespace	
Annotations	The minimum stoichiometry value	
Type	xs:int	
Properties	use: required	
Used by	Complex Type	mif:stoichiometryRangeType
Source	<pre><xs:attribute name="minValue" type="xs:int" use="required"> <xs:annotation> <xs:documentation>The minimum stoichiometry value</xs:documentation> </xs:annotation> </xs:attribute></pre>	

Attribute mif:stoichiometryRangeType / @maxValue

Namespace	No namespace	
Annotations	The maximum stoichiometry value	
Type	xs:int	
Properties	use: required	
Used by	Complex Type	mif:stoichiometryRangeType
Source	<pre><xs:attribute name="maxValue" type="xs:int" use="required"> <xs:annotation> <xs:documentation>The maximum stoichiometry value</xs:documentation> </xs:annotation> </xs:attribute></pre>	

Attribute mif:participant / @id

Namespace	No namespace	
Type	xs:int	
Properties	use: required	
Used by	Complex Type	mif:participant
Source	<pre><xs:attribute name="id" type="xs:int" use="required"/></pre>	

Attribute mif:interaction / @imexId

Namespace	No namespace	
Type	xs:string	
Properties	use: optional	
Used by	Complex Type	mif:interaction
Source	<pre><xs:attribute name="imexId" type="xs:string" use="optional"/></pre>	

Attribute mif:interaction / @id

Namespace	No namespace
Annotations	All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated.

	though, e.g. in the denormalised representation.
Type	xs:int
Properties	use: required
Used by	Complex Type mif:interaction
Source	<pre><xs:attribute name="id" type="xs:int" use="required"> <xs:annotation> <xs:documentation>All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</xs:documentation> </xs:annotation> </xs:attribute></pre>

Attribute mif:abstractFeature / @id

Namespace	No namespace
Type	xs:int
Properties	use: required
Used by	Complex Type mif:abstractFeature
Source	<pre><xs:attribute name="id" type="xs:int" use="required"/></pre>

Attribute mif:abstractParticipant / @id

Namespace	No namespace
Type	xs:int
Properties	use: required
Used by	Complex Type mif:abstractParticipant
Source	<pre><xs:attribute name="id" type="xs:int" use="required"/></pre>

Attribute mif:abstractParameter / @uncertainty

Namespace	No namespace
Type	xs:decimal
Properties	use: optional
Used by	Complex Type mif:abstractParameter
Source	<pre><xs:attribute name="uncertainty" type="xs:decimal" use="optional"/></pre>

Attribute mif:abstractInteraction / @id

Namespace	No namespace
Annotations	All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.
Type	xs:int
Properties	use: required
Used by	Complex Type mif:abstractInteraction
Source	<pre><xs:attribute name="id" type="xs:int" use="required"> <xs:annotation> <xs:documentation>All major objects have a numerical id which is unique to that object within a PSI MI file. The object may be repeated, though, e.g. in the denormalised representation.</xs:documentation> </xs:annotation> </xs:attribute></pre>

Attribute mif:entrySet / @level

Namespace	No namespace
Annotations	PSI MI level
Type	xs:int

Properties	use: fixed:	required 3
Used by	Complex Type	mif:entrySet
Source	<pre><xs:attribute name="level" type="xs:int" use="required" fixed="3"> <xs:annotation> <xs:documentation>PSI MI level</xs:documentation> </xs:annotation> </xs:attribute></pre>	

Attribute mif:entrySet / @version

Namespace	No namespace	
Annotations	PSI MI version within given level	
Type	xs:int	
Properties	use: fixed:	required 0
Used by	Complex Type	mif:entrySet
Source	<pre><xs:attribute name="version" type="xs:int" use="required" fixed="0"> <xs:annotation> <xs:documentation>PSI MI version within given level</xs:documentation> </xs:annotation> </xs:attribute></pre>	

Attribute mif:entrySet / @minorVersion

Namespace	No namespace	
Type	xs:int	
Properties	use: fixed:	optional 0
Used by	Complex Type	mif:entrySet
Source	<pre><xs:attribute name="minorVersion" type="xs:int" use="optional" fixed="0"/></pre>	