

DICOM Correction Item

Correction Number		CP-386
Log Summary: MR Chemical Shift in Metabolite Maps		
Type of Modification	Name of Standard	
Clarification	PS 3.3, 3.6. 3.16 2003	
Rationale for Correction		
<p>The descriptors of the chemical shift integration window are specified in Hz rather than ppm, and are not generally useful outside the context of the acquisition, the parameters of which are not provided.</p> <p>If numeric attributes are going to be used to describe the metabolite rather than the description alone, ppm values are more useful.</p> <p>In addition, since the common metabolites can be described by codes rather than depending on free form text, a code sequence is provided.</p>		
Sections of documents affected		
PS 3.3 C.8.13.5.12		
PS 3.6		
PS 3.16 Annex B, D		
Correction Wording:		

C.8.13.5.12 MR Metabolite Map Macro

Table C.8.13-26 specifies the attributes of the MR Metabolite Map Functional Group macro.

**TABLE C.8.13-26
MR METABOLITE MAP MACRO ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
MR Metabolite Map Sequence	(0018,9152)	1	Identifies chemical shift parameters of this frame. Only a single Item shall be permitted in this sequence.
>Metabolite Map Description	(0018,9080)	1	Text describing the Metabolite Map.
>Metabolite Map Code Sequence	(0018,9083)	3	Code describing the Metabolite Map.
>>Include 'Code Sequence Macro' Table 8.8-1.			Defined Context ID = 4032
>Chemical Shift Sequence	(0018,9084)	3	The list of frequencies that were used to create the Metabolite Map. One or more Items may be included in this sequence.
>>Chemical Shift Minimum Integration Limit	(0018,9195)	1	Minimal value of Chemical Shift Frequency in Hz.
>>Chemical Shift Minimum Integration Limit in ppm	(0018,9295)	1	Minimal value of Chemical Shift Frequency in ppm.
>>Chemical Shift Maximum Integration Limit	(0018,9196)	1	Maximum value of Chemical Shift Frequency in Hz.
>>Chemical Shift Maximum Integration Limit in ppm	(0018,9296)	1	Maximum value of Chemical Shift Frequency in ppm.

Add to PS 3.6:

(0018,9083)	Metabolite Map Code Sequence	SQ	1	
(0018,9195)	Chemical Shifts Minimum Integration Limit <u>in Hz</u>	FD	1	Retired
(0018,9196)	Chemical Shifts Maximum Integration Limit <u>in Hz</u>	FD	1	Retired
(0018,9295)	Chemical Shifts Minimum Integration Limit in ppm	FD	1	
(0018,9296)	Chemical Shifts Maximum Integration Limit in ppm	FD	1	

Add to PS 3.16 Annex B:

CID 4032 MR Spectroscopy Metabolites

Context ID 4032
MR Spectroscopy Metabolites
Type: Extensible Version: 20040322

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
<i>Include CID 4033 MR Proton Spectroscopy Metabolites</i>		

CID 4033 MR Proton Spectroscopy Metabolites

Context ID 4033
MR Proton Spectroscopy Metabolites
Type: Extensible Version: 20040322

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	F-6175A	N-acetylaspartate
SRT	F-61620	Choline
SRT	F-61380	Creatine
SRT	F-61760	Lactate
SRT	F-63600	Lipid
DCM	113080	Glutamate and glutamine
SRT	F-64210	Glutamine
SRT	F-64460	Tuarine
SRT	F-61A90	Inositol
DCM	113081	Choline/Creatine Ratio
DCM	113082	N-acetylaspartate/Creatine Ratio
DCM	113083	N-acetylaspartate/Choline Ratio

Note: For the purpose of this context group, where possible, the resonance peak in the spectrum corresponding to a particular metabolite is described using the concept from SNOMED for the substance corresponding to the metabolite. E.g. the code used for "lipid" is the code for "lipid (substance)", as this concept is effectively post-coordinated pre-coordinated by its use in the Metabolite Map Code Sequence (0018,9083) to mean "lipid resonance peaks in MR spectroscopy".

<i>Add to PS 3.16 Annex D:</i>

DICOM Code Definitions (Coding Scheme Designator "DCM" Coding Scheme Version "01")

Code Value	Code Meaning	Definition	Notes
113080	Glutamate and glutamine	For single-proton MR spectroscopy, the resonance peak corresponding to glutamate and glutamine.	
113081	Choline/Creatine Ratio	For single-proton MR spectroscopy, the ratio between the Choline and Creatine resonance peaks.	
113082	N-acetylaspartate /Creatine Ratio	For single-proton MR spectroscopy, the ratio between the N-acetylaspartate and Creatine resonance peaks.	
113083	N-acetylaspartate /Choline Ratio	For single-proton MR spectroscopy, the ratio between the N-acetylaspartate and Choline resonance peaks.	