

	ImageInfo	Group	attribute	
			AppFileVer	Microscope software version
			BackgroundBalance	Background balance
			BitDepth	The bit-depth of a camera sensor describes its ability to transform the analog signal coming from the pixel array into a digital signal
			Brightness	Relative intensity affecting a person or sensor
			ChannelCount	Number of RGB channels
			ColorEnhancement	Whether enhanced image color display or not
			Contrast	The difference in color and intensity of the depicted object from its background
			Optional	
			DeviceSN	Microscope device serial number
	QCInfo	Group	attribute	
			DistortionCorrection	Whether fixed distortion or not
			ExposureTime	Exposure time in ms
			FOVHeight	Height of an individual FOV in pixel
			FOVWidth	Width of an individual FOV in pixel
			Gain	Amplification applied to the signal by the image sensor
			Gamma	The coefficient links between the human eye and the digital camera
			GammaShift	Whether adapt the digital image taken with the help of a linearly recording camera to the nonlinear perception of the human eye or not
			Illuminance	Intensity of light
			Manufacture	Microscope manufacture
	Stitch	Group	attribute	
			Model	Microscope model
			Overlap	Overlapping pixels between single tiles
			Pitch	Physical pitch (nm) between neighbor spots
			PixelSizeX	Size of pixel in x direction
			PixelSizeY	Size of pixel in y direction
			Optional	
			QCResultFile	Prefix of imageQC result file, the unique identifier of the image
			ScanChannel	Fluorescence channel
			ScanCols	Number of columns scanned
	TissueSeg	Group	attribute	
			ScanObjective	Magnification power of the scan objective lens
			ScanRows	Number of rows scanned
			ScanTime	Scan date and time
			Sharpness	Degree of clarity of the edge(s) of the image
			StereoResepVersion	Stereo-resep version
			StitchedImage	Whether the corresponding image is a panorama image (true) or a set of tiled images (false)
			STOmicsChipSN	Stereo-seq Chip T serial number
			WhiteBalance	An adjustment in electronic and film imaging that corrects for the color balance of the lighting
			Optional	
	CellSeg	Group	ID array	
			RGBScale	RGB color
			Dataset	
			attribute	
			ClarityScore	Reference score for evaluating the clearness of cell boundaries
			Experimenter	Email of the experimenter who did QC for the image
			GoodFOVCount	Number of FOVs that have identified more than 3 track cross points
			ImageQCVersion	ImageQC version
			QCPassFlag	Whether the corresponding image passed QC
			RemarkInfo	Any remarks, notes, comments on the image
	Register	Group	Optional	
			StainType	The staining type
			TotalFOVCount	Total number of FOVs
			TrackLineScore	Reference score for evaluating whether the detected track lines can be used as references for image stitching and registering with gene expression matrix. (This score only evaluate whether the program detected track lines on the image, it does not infer the clarity of the lines or the images)
			CrossPoints	2D array x,y *n (x, y) coordinates of track cross points in each FOV
			Group	Dataset
			attribute	
			StitchingScore	Reference score for stitching
			TemplateSource	The reference FOV for deriving the template that used for rotating and scaling the microscopic images
	ManualState	Group	attribute	
			BGIStitch	attribute StitchedGlobalHeight Tiled Image Only Height of stitched tiled images using BGI stitching algorithm StitchedGlobalWidth Tiled Image Only Width of stitched tiled images using BGI stitching algorithm
			Group	2D array StitchedGlobalLoc Coordinates for the BGI stitched tiled image Dataset Tiled Image Only
			ScopeStitch	attribute GlobalHeight Height of panorama image GlobalWidth Width of panorama image
			Group	2D array GlobalLoc Coordinates for the stitched tiled image (either program stitched or microscope stitched) Dataset
			StitchEval	attribute MaxDeviation Maximum stitching deviation 2D array GlobalDeviation Global stitching deviation matrix Dataset Panorama Image Only
			Group	2D array StitchEvalH Stitching deviation matrix for the horizontal axes Dataset Tiled Image Only
			Group	2D array StitchEvalV Stitching deviation matrix for the vertical axes Dataset Tiled Image Only
	StereoResepSwitch	Group	attribute	
			TissueSegScore	Reference score for tissue segmentation
			TissueSegShape	Image shape for tissue segmentation mask image
			2D array	
			TissueMask	Encoded tissue segmentation mask file (before register with gene expression matrix)
			Dataset	
			attribute	
			CellSegShape	Reference score for cell segmentation
			Optional	
			2D array	
	Preview	Dataset	attribute	
			CellMask	Encoded cell segmentation mask file (before register with gene expression matrix)
			Dataset	Optional
			attribute	
			CounterRot90	Count of counter clockwise rotation of 90 degree
			Flip	Whether horizontally flipped or not
			MatrixShape	Height and width of the gene expression matrix
			OffsetX	Offset between microscope image and gene expression matrix in x-axis
			OffsetY	Offset between microscope image and gene expression matrix in y-axis
			RegistrationScore	Reference score for registration
	IPRVersion	Group	attribute	
			Rotation	Rotation degree between raw image and deviation template
			ScaleX	Scale between raw image and deviation template in horizontal direction
			ScaleY	Scale between raw image and deviation template in vertical direction
			XStart	Gene expression matrix offset x (GEF geneExp/binNexpression attribute minX)
			YStart	Gene expression matrix offset y (GEF geneExp/binNexpression attribute minY)
			2D array	
			MatrixTemplate	List of track cross point derived from gene expression matrix
			Dataset	
			attribute	
	IPRVersion	Group	attribute	
			stitch	Whether manually stitched the tiled images
			tissueseg	Whether manually delineated the tissue coverage region
			cellseg	Whether manually delineated the cell coverage regions
			register	Whether manually aligned microscope scope image and gene expression matrix
			attribute	
			stitch	Switch for performing stitching
			tissueseg	Switch for performing tissue segmentation
			cellseg	Switch for performing cell segmentation
			register	Switch for performing registration
	Preview	Dataset	2D array	
			A 2D matrix merges stitched image, tissue segmentation boundary and cell segmentation boundary	
			attribute	
			IPRVersion	
			IPR file format version	