Cell Centered Database
University of California, San Diego
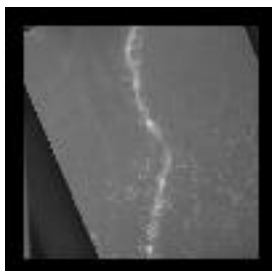### maryann@ncmir.ucsd.edu

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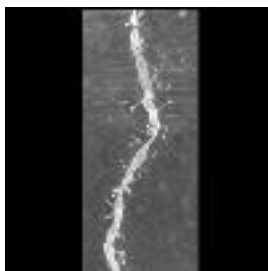**Microscopy Product #:40 wt_g14T5**

For the most updated information, please visit
http://ccdb.ucsd.edu/CCDBWebSite/main?event=displaySum&mpid=40

Image2D	Reconstruction	Segmentation

Project Information:

PROJECT_ID	P1207
PROJECT_NAME	Correlative microscopic characterization of dendritic spines in a transgenic mouse model of hyperdopaminergia: The dopamine transporter knockout mouse
PROJECT_DESCRIPTION	Multiscale characterization of DAT KO transgenic mouse
LEADER	Diana Price
FUNDING_AGENCY	NIH
PROJECT_START_DATE	2003-01-01 00:00:00.0
PROJECT_END_DATE	
COLLABORATORS	Aki Laakso, Michele Cyr, Maryann Martone, Naoko Yamada, Andrea Thor, Monica Berlanga
PUBLICATION1	
PUBLICATION2	
PUBLICATION3	

Experiment Information -	
PURPOSE	EMT reconstructions of medium spiny neuron dendrites
TITLE	P1207 Experiment 5
EXPERIMENTER	Diana Price, Masako Terada, Andrea Thor
EXPERIMENT_NAME	
EXPERIMENT_DATE	2003-04-22 00:00:00.0

Subject Information -	
GROUP_BY	genetic manipulation
SUBJECT_NAME	wildtype/control
FIXATION_METHOD_ID	11
SCIENTIFIC_NAME	mus musculus
SPECIES	mouse
STRAIN	C57BL/129SvJ
AGE	7 months
AGECLASS	adult
ANIMAL_NAME	
LITTER_ID	
SEX	male
VENDOR	
WEIGHT	32 grams

Tissue -	
ANATOMIC_LOCATION	neostriatum
MICROTOME	vibratome
ORIENTATION	coronal
THICKNESS	100 um
TISSUE_PROD_STORAGE	p1207 Slide Box 1
EXTERNAL_FILE_NAME	NA
TISSUE_GROUP_TYPE	NA

Microscopy Product Information -	
MICROSCOPY_PRODUCT_ID	40
IMAGE_BASENAME	wt_g14T5
CREATE_DATE	2003-12-22 00:00:00.0
INSTRUMENT	Hitachi UHVEM
MICROSCOPE_TYPE	UHVEM
PLANE_COUNT	
PRODUCT_TYPE	single axis tilt series
PURL	NA
SESSION_NAME	
TELESCIENCE_SRB	P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40
X_RESOLUTION	.02 um/pixel
Y_RESOLUTION	.02 um/pixel
XSIZE	1024
YSIZE	1024

Protocol:

Experiment #5 DAT KO mouse   04/22/03

Description: Photoconverted dye-filled striatal medium spiny

neurons for EM

Animal Info: ID# wt3 wt4
     Weight: 34g 32g
     DOB: 9/30/02 9/30/02
Protocol

1. Perfusion (at Duke)
Nembutal; 4% paraformaldehyde + 0.1% gluteraldehyde

2. Sectioned on Vibratome (at NCMIR)
 Thickness = 100 microns
 Store in 1X PBS in fridge

3. Fill cells with Lucifer yellow
4. Store slices with filled cells in 4% para in fridge

5. Wash 6x with PBS 1X (on ice)

6. When ready to begin photoconversion, turn on the chiller in
confocal room. Set at ~4?C. The refrigerator unit should be set
at TEMP < 45?C. Switch ON. Stage needs around 20 minutes to
come to temperature. Pull unit out into hallway (to avoid
increase in temperature).

6. Place slices in 2% glut/PBS on ice for 15 minutes

0.8 ml 25% gluteraldehyde
2 ml 5x PBS
6.2 ml ddH20

7. Briefly wash slices in PBS
8. Place slices in PBS/glycine for a few minutes

38 mg glycine
10 ml 1x PBS

9. Follow instructions for Photoconversion of Lucifer Yellow-
filled cells
10. After photoconversion, remove DAB solution and wash slice 3x
10 minutes in generous volumes of PBS on ice. Must remove all
DAB before beginning osmification.

Microwaving protocol for osmication, dehydration, and embedding
of photoconverted slices

* Prepare Resin mix and let it sit covered and undisturbed
until needed (instructions by fume hood in embedding area).

* Rinse slices with a generous amount of cold 1X PBS on ice
for ~ 10 min.

* Turn on circulating bath (over 20?C, ~ RT): water bath
(left hand side) will fill.

* Insert temperature probe

* Fill other T-beaker with water

* Set temperature to 35?C

* Open new bottle of 100% ethanol and prepare following
dilutions:

90% ethanol
70% ethanol
50% ethanol

* Make up osmium solution under fume hood and chill on ice

* 1% osmium tetroxide in PBS on ice.

2.0 ml PBS 5X
then 5.5 2x distilled H2O
2.5 ml Osmium 4%

* Rinse w/ 2x distilled H2O ? 3 x 5min

* Warm up microwave for 2 minutes on high

* Label tubes & place in rack on ice

* Fill tubes with osmium solution (w/ meniscus at 0.5)

* Using glass hooks, transfer slices to tubes

* Remove temperature probe & set temp above 50?C.

* Put rack w. tubes in for 40 sec at full power

* Change rear water load in T-beaker

* Change osmium solution on ice and microwave for another 40
seconds at full power

* Rinse samples for 2 minutes in distilled water on benchtop
(at RT)

* Insert petri bath with H2O under rack

* Dehydration steps (2 x 40 seconds per step; all @ 35?C)

1st
2nd

50% EtOH

70% EtOH

90% EtOH

100% EtOH

100% Acetone

* All of the dehydration steps should be carried out in
microcentrifuge tubes filled with 600 ml of solution.
Temperature probe should be in petri dish and set for 35.
Change water in rear water load when warm to touch.

* Change from water to acetone in petri bath under rack ?
check acetone bath level every 3 minutes

* Infiltration steps (both @ 50?C):

With a 50/50 mixture of resin and acetone:

1 x 15
min
1:1 Resin:acetone

* Check rear water load at
7.5 minutes

Switch to 100% resin for 3 x 10 minutes:

1st
2nd
3rd
100% Resin

*Periodically check rear water
load

* Flat embed samples between mould release slides and place
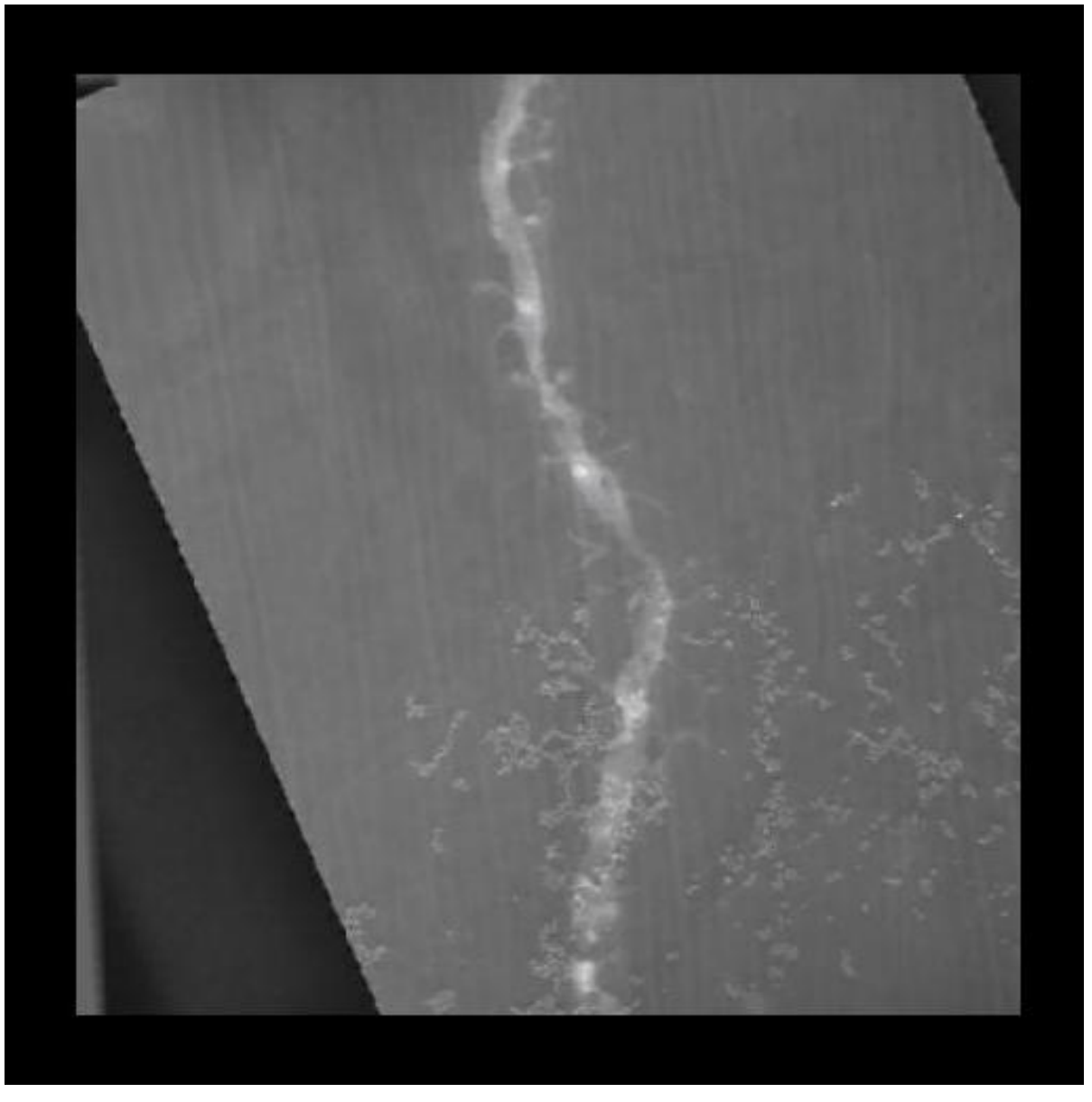in embedding oven under vacuum.

Image Type -

SINGLE_TILT_IMAGE_SEQ_ID	11
TILT_INCREMENT	2 degrees
THROUGH_FOCUS_SERIES_ID	6022
ZSTEP	.25microns
THROUGH_PSFFILE	061603C
THROUGH_DESC	transmitted light z series through photoconverted medium spiny neuron
THROUGH_NOTES	WT 2A #2 experiment 5 WT grid14 tomo5
SINGLETILTIMAGESEQ_ID	6117
SINGLET_DESC	Spiny Dendrite Tomo

Specimen Description -

ANATOMICAL_DETAIL	40
ATLAS	Paxinos and Franklin
ATLAS_COORD	2.215, -4, .02
CELL_TYPE	medium spiny neuron
MAP_LOCATION	Mar2004DATKOM/061603b_atlasplate31.jpg
ORGAN	brain
REGION	neostriatum
STRUCTURE	spiny dendrite
SYSTEM	central nervous system

Electron Microscopy Product -

EM_PRODUCT_ID	6151
ACCELERATING_VOLTAGE	3 MeV
EMBEDDING_MEDIUM	resin
MAGNIFICATION	3000
RECORDING_MEDIUM	film

Raw 2D Image

Raw Low Resolution 2D Image -

| Raw 2D Image -	
IMAGE2D_ID	6135
IMAGE_DATE	2004-01-26 00:00:00.0
IMAGE_DESC	a .tar file containing IMOD processing files for the volume reconstruction. Specifically, the .ali, .fid, .preali and .seed files are in the .tar file.
IMAGE_FILE_FORMAT	imod mrc
IMAGE_FILE_NAME	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_img.jpg
MAGNIFICATION	3000 X
RAW_ANIMATION_DESC	a .mpg file of the tilt series shot for this spiny dendrite specimen.
RAW_ANIMATION_FILE	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_img.mpg
RAW_DATA_FILE	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_image.tar
THUMBNAIL_DESC	a 512 by 512 image of a spiny dendrite specimen. Image was taken from the tilt series that was to be used for the volume reconstruction.
THUMBNAIL_FILE	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_img_thumb.jpg
X_SIZE	1024 pixels
Y_SIZE	1024 pixels

Reconstruction

Reconstruction Image -
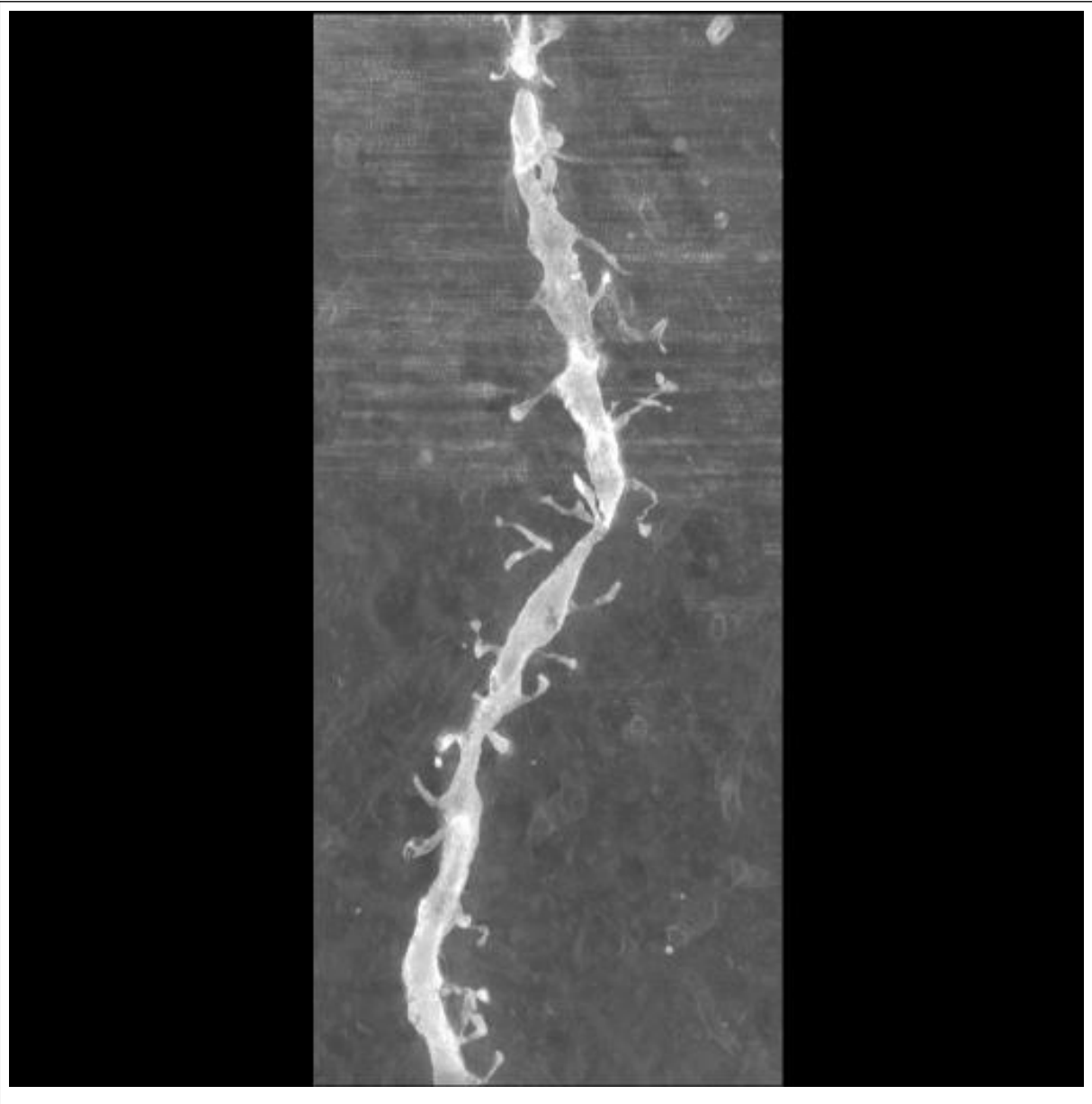
Reconstruction -	
RECONSTRUCTION3D_ID	40
ALIGNMENT_METHOD	semi-automatic
ALIGNMENT_PROGRAM	IMOD
BASENAME_ORIGFILE	NA
CORRELATED_VOLUME_NAME	wt_g14T5.70
CROPPING_COORDINATE1	,
CROPPING_COORDINATE2	,
FIDUCIAL_MARK_FILE	Mar2004DATKOM/WT/wt_g14T5/wt_g14T5.fid
IMAGE_MAP_FILE	Mar2004DATKOM/WT/wt_g14T5/wt_g14T5_imagemap.tiff
RECON_ALGORITHM	R-weighted back projection
RECON_DATE	2004-01-26 00:00:00.0
RECON_DESC	Reconstruction of selectively stained spiny dendrite from single axis tilt tomography
RECON_PROGRAM	IMOD
RECON_TYPE	single tilt electron tomography
THUMBNAIL	P1207/wt_g14T5_vt.jpg
VOLUME_DIMENSION	451, 1024, 70
VOLUME_NAME	Mar2004DATKOM/WT/wt_g14T5/wt_g14T5_vol.tar
VOXEL_SCALE	, ,
RECONSTRUCTION_IMAGES_ID	40
RECON_IMAGE_DESC	Maximum intensity project of a tomographic reconstruction of a spiny dendrite from a 4 ?m thick section throuh medium spiny neuron of mouse caudateputamen
RECON_FILE_NAME	Mar2004DATKOM/WT/wt_g14T5/wt_g14T5_MIP.gif
VOLUME_THUMBNAIL	P1207/wt_g14T5_vt.jpg
ANIMATION_FILE	Mar2004DATKOM/WT/wt_g14T5/wt_g14T5_rotmovie.qt
ANIMATION_DESC	maximum intensity projection of selectively stained spiny dendrite rotated along the y axis

Segmentation

Segmentation Image -
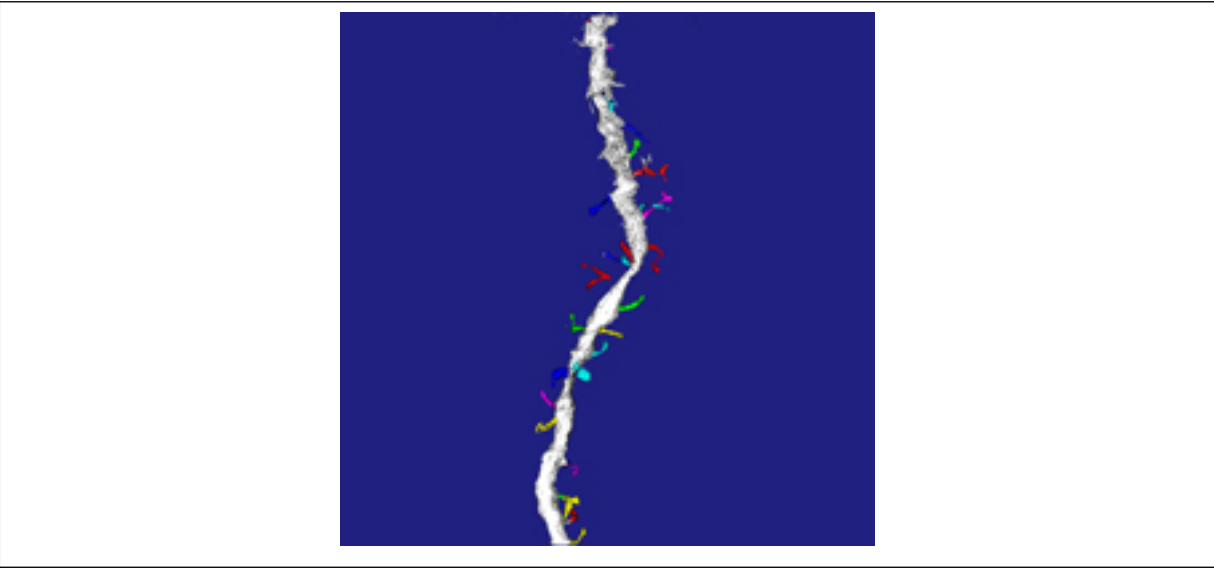
Segmentation -	
SEGMENTED_OBJECT_ID	6514
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6518
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6523
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6528
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6534
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6540
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	190
OBJECT_DESC	spiny dendrite with individual spines segmented
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	Mar2004DATKOM/thumbnails/wt_g14T5_seg.jpg
SEGMENT_PERSON_NAME	Masako Terada
SEG_DESC	Spine necks were manually defined using Analyze image edit functions. Segmentation was then performed using morphology and object definition tools provided by Analyze; segmented objects are contained in the Analyze .obj file
SEG_FILE_NAME	Mar2004DATKOM/WT/wt_g14T5/wt_g14T5_seg.tar

Segmentation -	
SEGMENTED_OBJECT_ID	6538
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6539
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6541
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6542
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6543
ANALYSIS_FILE_NAME	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/segmented_object_input_template_wt_g14T5.xls
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENTED_OBJ_2D_IMAGE	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_seg.jpg
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines
SEG_FILE_NAME	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_seg.tar
THUMBNAIL	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_seg_thumb.jpg

Segmentation -	
SEGMENTED_OBJECT_ID	6513
ANALYSIS_FILE_NAME	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/segmented_object_input_template_wt_g14T5.xls
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENTED_OBJ_2D_IMAGE	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_seg.jpg
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines
SEG_FILE_NAME	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_seg.tar
THUMBNAIL	/telescience/home/CCDB_DATA_USER.portal/P1207/Experiment_19/Subject_19/Tissue_34/Microscopy_40/wt_g14T5_seg_thumb.jpg

Segmentation -	
SEGMENTED_OBJECT_ID	6515
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6516
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6517
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6519
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6520
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6521
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6522
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6524
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6525
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6526
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6527
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6529
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6530
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6531
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6532
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6533
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6535
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -

SEGMENTED_OBJECT_ID	6536
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

Segmentation -	
SEGMENTED_OBJECT_ID	6537
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
ANALYZE_DESC	Volume, surface area and lengths of dendritic shaft and individual spines. Partial spine measurements were not taken. These spines are noted with a "p" in their object names.
DISPLAY_IMAGE_DESC	a 512 by 512 image of the segmented spiny dendrite specimen.
DOWNLOADABLE_FILE_DESC	.tar file of the segmentation files of a spiny dendrite specimen.
IS_MANUAL	N
LABELING_RANK	none
NUMBER_OF_OBJECT	0
SEGMENT_PERSON_NAME	Masako Terada
SEG_ALGORITHM	simple threshold
SEG_DESC	Spiny dendrite shaft and dendritic spines

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ACKNOWLEDGEMENT

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Martone, M. E., Gupta, A., Wong, M., Qian, X., Sosinsky, G., Ludaescher, B., and Ellisman, M. H. A cell centered database for electron tomographic data. J. Struct. Biology 138: 145-155, 2002.

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Maryann Martone