

A MRI-Based Toolbox for Neurosurgical Planning in Nonhuman Primates

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Materials

Name	Company	Catalog Number	Comments
3D Printing Software (GrabCAD Print)	Stratasys	Version 1.36	Used for High quality 3D printing
3D Printing Software (Simplify 3D)	Simplify3D	Version 4.1	Used for PLA 3D printing
Agarose	Benchmark Scientific	A1700	Used for making gel brains
Black Nail Polish	L.A. Colors	CNP637	Used for gel molding
Cannula (ID 450 um, OD 666 um)	Polymicro Technologies	1068150625	Used to inject dye into gel brain
Catheter Connector	B Braun	PCC2000	Perifix for 20-24 Gage epidural catheters; Units per Cs 50
Dremel 3D Digilab 3D45 printer	Dremel	F0133D45AA	Used for prototyping in PLA
ECOWORKS	Stratasys	300-00104	Used to dissolve QSR support structures
Erlmeyer flask	Pyrex	4980	Used for gel molding
Ethyl cyanoacrylate	The Original Super Glue Corp.	15187	Used to make combined cannula
Graduated cylinder		3023	Used for gel molding
HATCHBOX PLA 3D Printer Filament	HATCHBOX	3DPLA-1KG1.75-RED/3DPLA-1KG1.75-BLACK	1kg Spool, 1.75mm, Red/Black
Locust Bean Gum	Modernist Pantry	1018	Gumming agent for gel brain mixtures
MATLAB	MathWorks	R2019b	Used for skull extraction
McCormick Yellow Food Color	McCormick		Used for dye injection
Microwave	Panasonic	NN-SD975S	Used for agarose curing
MR Imaging Software (3D Slicer)	3D Slicer	Version 4.10.2	Used for 3D model generation
MR Imaging Software (Mango with BET plugin)	Reasearch Imaging Institute	Version 4.1	Used for brain extraction
Philips Acheiva MRI System	Philips	4522 991 19391	Used to image non-human primates
Phosphate Buffered Solution	Gibco	70011-044	10X diluted with DI water to 1X
Pump	WPI	UMP3T-1	Used for dye injection

Pump driver	WPI	UMP3T-1	Used for dye injection
Refrigerator	General Electric		Used to preserve agarose gel
Scientific Spatula	VWR	82027-494	Used to extract gel molds
SolidWorks	Dassault Systemes	2019	
Stratasys ABS-M30 filament	Stratasys	333-60304	Used for high quality 3D printing
Stratasys F170 3D printer	Stratasys	123-10000	Used for high quality 3D printing
Stratasys QSR support	Stratasys	333-63500	Used to create supports with ABS model
Syringe	SGE	SGE250TLL	Used for dye injection