

# **Motor Behavior Regulation of Rat Robots Using Integrated Electrodes Stimulated by Micro-Nervous System**

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**1.The following six tables show the activation values of the robotic brain regions tested in six rats.**

**Table S1. Stimulation parameters in S-1 rat**

S-1				
		Amplitude (V)	Frequency (Hz)	Duration (S)
Left SIBF	sine	3.9	220	0.6
	triangle	4.2	250	0.8
	square	2.7	180	0.6
Left MFB	sine	3.3	180	0.7
	triangle	3.6	200	0.8
	square	2.1	130	0.6
Right MFB	sine	3	190	0.5
	triangle	3	170	0.6
	square	1.8	130	0.5
Right SIBF	sine	4.2	230	0.8
	triangle	4.5	250	0.8
	square	3.6	220	0.7

**Table S2. Stimulation parameters in S-2 rat**

S-2				
		Amplitude (V)	Frequency (Hz)	Duration (S)
Left SIBF	sine	5.4	250	0.7
	triangle	6	250	0.7
	square	4.2	250	0.7
Left MFB	sine	2.4	200	0.5
	triangle	2.4	200	0.7
	square	1.5	150	0.5
Right MFB	sine	2.7	200	0.6
	triangle	3	170	0.6
	square	2.1	170	0.5
Right SIBF	sine	4.2	200	0.7
	triangle	4.8	250	0.7
	square	3	200	0.7

**Table S3. Stimulation parameters in S-3 rat**

S-3				
		Amplitude (V)	Frequency (Hz)	Duration (S)
Left SIBF	sine	2.1	150	0.5
	triangle	2.7	180	0.6
	square	1.5	150	0.5
Left MFB	sine	2.4	180	0.5
	triangle	2.4	190	0.5
	square	1.8	150	0.4
Right MFB	sine	3	180	0.6
	triangle	3.3	180	0.6
	square	2.4	170	0.6
Right SIBF	sine	2.1	140	0.3
	triangle	2.7	150	0.3
	square	1.5	110	0.3

Table S4. Stimulation parameters in S-4 rat

S-4				
		Amplitude (V)	Frequency (Hz)	Duration (S)
Left SIBF	sine	3.6	220	0.6
	triangle	3.9	220	0.6
	square	2.7	170	0.4
Left MFB	sine	2.4	160	0.6
	triangle	2.7	170	0.6
	square	1.8	130	0.5
Right MFB	sine	2.4	170	0.5
	triangle	2.7	160	0.6
	square	1.8	120	0.4
Right SIBF	sine	4.5	240	0.7
	triangle	5.1	250	0.8
	square	3.6	200	0.4

Table S5. Stimulation parameters in S-5 rat

S-5				
		Amplitude (V)	Frequency (Hz)	Duration (S)
Left SIBF	sine	4.5	200	0.8
	triangle	4.2	240	0.7
	square	3	250	0.7
Left MFB	sine	1.8	200	0.5
	triangle	1.2	150	0.5
	square	0.6	150	0.5
Right MFB	sine	3.3	200	0.7
	triangle	2.4	150	0.7
	square	1.2	150	0.5
Right SIBF	sine	4.8	250	0.7
	triangle	4.5	250	0.5
	square	3.3	200	0.7

Table S6. Stimulation parameters in S-6 rat

S-6				
		Amplitude (V)	Frequency (Hz)	Duration (S)
Left SIBF	sine	4.8	280	0.6
	triangle	5.1	270	0.7
	square	4.2	230	0.7
Left MFB	sine	2.7	180	0.6
	triangle	2.7	200	0.6
	square	2.1	180	0.5
Right MFB	sine	2.1	180	0.6
	triangle	2.4	180	0.7
	square	1.8	150	0.5
Right SIBF	sine	4.2	230	0.6
	triangle	4.8	280	0.8
	square	3.6	250	0.7

## 2. Local enlargement of staining results of rat coronal brain sections.

As can be seen in the red circle in Figure S1, some neurons around the electrode paths were disarranged, and some inflammatory cells were present.

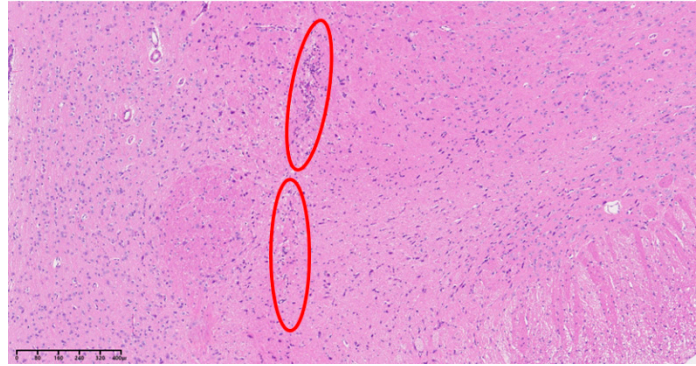


Figure S1 Local enlargement of staining results of rat coronal brain sections.