

Table 1. Animal states used to construct libraries

Bird ID	Individual animal brain states	3' ID	Category	Used for libraries
1	E10 male	ACCGTT	Embryonic development (sex verified by PCR)	0057
2	E10 female	TATCTT		0057
3	E15 male	TTGATT		0057
4	E15 female	CACGGT		0057
5	PH1 male	GGTCGT		0057
6	PH1 female	GCACGT		0057
7	PH5 male	CTGAGT	Post hatch development (sex verified by PCR)	0058, 0060, 0071
8	PH5 female	GTCGCT		0058, 0060, 0071
9	PH10 male	GAGCCT		0058, 0060, 0071
10	PH10 female	ATTCAAT		0058, 0060, 0071
11	PH15 male	CTCTTG		0058, 0060, 0071
12	PH15 female	AAGGTG		0058, 0060, 0071
13	PH25 male silence	GGACTG	Sensory acquisition phase	0058, 0060, 0071
14	PH25 female silence	ACTATG		0058, 0060, 0071
15	PH25 male hearing 2hr	AGCTGG		0058, 0060, 0071
16	PH25 female hearing 2hr	TAACGG		0058, 0060, 0071
17	PH35 female hearing in aviary 2hr	GTTAGG	Subsong phase (verified subsong prior day)	0058, 0060, 0071
18	PH35 (subsong singer) male silence	TCCTCG		0058, 0060, 0071
19	PH38 male undirected subsong & hearing adult song 2hr	ATACCG	Early plastic song phase (verified plastic song prior day)	0058, 0060, 0071
20	PH55 female hearing in aviary 2hr	CATACG		0058, 0060, 0071
21	PH55 (early plastic song singer) male silence	CGGACG		0058, 0060, 0071
22	PH54 male early plastic undirected singing & hearing adult song 2hr	GACTAG	Late plastic song phase (verified plastic song prior day)	0058, 0060, 0071
23	PH71 female hearing in aviary 2hr	CCACAG		0058, 0060, 0071
24	PH77 (late plastic song singer) male silence	TGTAAG		0058, 0060, 0071
25	PH76 male late plastic undirected singing & hearing adult song 2hr	ATGGTC		0058, 0060, 0071
26	PH88 (puberty) female hearing in aviary 2hr	TACCTC	Crystallization phase (verified crystallized song prior day)	0058, 0060, 0071, 0067, 0061
27	PH86 (crystallization-puberty) male silence	ACACTC		0058, 0060, 0071, 0066, 0061, 0062, 0064
28	PH86 male crystallized undirected singing & hearing adult song 2hr	AGTATC		0058, 0060, 0071
29	Adult female silence, 2hr morning in soundbox	TGATGC	Adult vocal communication (experienced breeding birds)	0058, 0060, 0071
30	Adult male silence in soundbox 2hr morning	TCTAGC		0058, 0060, 0071
31	Adult male undirected singing & hearing adult song 30 min	CTTACC		0058, 0060, 0071
32	Adult male directed singing & hearing adult song 30 min	GAGTTA		0058, 0060, 0071
33	Adult female calling & hearing adult male song 2hr	ACGGTA		0058, 0060, 0071
34	Adult male undirected singing & hearing adult song 2hr	AATTGA		0058, 0060, 0071, 0068, 0062, 0065
35	Adult male undirected singing & hearing adult song 6hr	TGGTGA		0058, 0060, 0071, 0068, 0062, 0065
36	Adult 3 years old male singing undirected song 1hr	TAGAAT		0058, 0060, 0071
37	Adult male sleeping 2hr	ATCGAA	Old Sleep	0058, 0060, 0071
38	Adult male kainate treatment, 30min post 1st seizure	CTAGGA	Seizure and receptor activation	0058, 0060, 0071
39	Adult male kainate treatment, 2hr post 1st seizure	CGTTCA		0058, 0060, 0071
40	Adult male kainate treatment, 6hr post 1st seizure	TACGCA		0058, 0060, 0071
41	Adult male apomorphin treatment, 30min post 1st seizure	TCACCA		0058, 0060, 0071
42	Adult male apomorphin treatment, 2hr post 1st seizure	GCTTAA	Deaf	0058, 0060, 0071
43	Adult male deafened	CAGCAA		0058, 0060, 0071
44	Adult 2.9 years old male isolated from PHD24 until adult	AGACAA	Isolation	0058, 0060, 0071
45	PH67 male isolated from PHD25, silence	CCTAGT		0058, 0060, 0071
46	PH67 male isolated from PHD25, hearing song first time, 30 min	TCGTAT		0058, 0060, 0071
47	PH120 male visually isolated from PHD25	CAGTCT	Rapid vocal learning (verified vocal learning in real time)	0058, 0060, 0071, 0064
48	PH40 male rapid vocal learning-singing, afternoon of 1st day	GGCACA		0058, 0060, 0071
49	PH52 male rapid vocal learning-singing, morning of 4th day	GTAGAC		0058, 0060, 0071
50	PH47 male rapid vocal learning-singing, evening of 2nd day	TTAGCC		0058, 0060, 0071, 0069, 0064, 0063, 0065
51	PH38 male no motor learning yet, 1st day	CAAGCG		0058, 0060, 0071
52	PH64 male rapid vocal learning-singing, afternoon of 7th day	GCCTGT		0058, 0060, 0071
53	PH48 male rapid vocal learning-singing, midday of 8th day	GCGAGA		0058, 0060, 0071
54	PH51 male rapid vocal learning-singing, evening of 2nd day	GCACAC		0058, 0060, 0071
55	PH44 male rapid vocal learning-singing, evening of 3rd day	CTCCTA	0058, 0060, 0071	
56	PH37 male no training, singing isolate subsong	GTCTCC	Silent and singing (used for initial library test)	0058, 0060, 0071, 0070
57	Adult male silence overnight plus 1hr in morning	AGGTGT		0031, 0054
58	Adult male directed singing to females 30min	AGGTGT		0033
59	Adult male directed singing to females 30min	AGGTGT		0033
60	Adult male undirected singing in aviary 40min	AGGTGT		0052, 0056

The numbers in the left-most column indicate the number ID for each bird. Red text, age; blue text, sex; green text, amount of time stimulated or performing the specified behavior; other colored text, categories of brain states. The unique 3'-ID is the 6-bp sequence of the 3' primer used for each individual bird; the exception is that samples from birds 57-60 were used with the same primer.