

**Supplementary Table S1.** Detailed information for all samples in this study: honey bee ID. number of copies detected in each replicate for each target gene (*Hsp70* and *16srRNA*).

Observation	Honey bee ID	<i>Hsp70</i> (Replicate 1)	<i>Hsp70</i> (Replicate 2)	<i>16S rRNA</i> (Replicate 1)	<i>16S rRNA</i> (Replicate 2)	<i>Hsp70</i> average	<i>16S rRNA</i> average	<i>16S rRNA/Hsp70</i>
1	1E06C1	191000	196000	2251000	2340000	193500	2295500	11.9
2	1E06C2	176000	181000	2110000	2200000	178500	2155000	12.1
3	1E06C3	189000	188000	2400000	2350000	188500	2375000	12.6
4	1E06C4	187000	188000	2330000	2340000	187500	2335000	12.5
5	1E06C5	173200	173900	2190000	2200000	173550	2195000	12.6
6	1E08C1	341000	331000	2790000	2794000	336000	2792000	8.3
7	1E08C2	335100	335000	2630000	2635000	335050	2632500	7.9
8	1E08C3	314500	321000	2981000	2992000	317750	2986500	9.4
9	1E08C4	309000	307700	2850000	2799000	308350	2824500	9.2
10	1E08C5	335000	331000	2792000	2795000	333000	2793500	8.4
11	1E10C1	402000	400000	3567000	3670000	401000	3618500	9.0
12	1E10C2	391000	391000	3440000	3550000	391000	3495000	8.9
13	1E10C3	399000	391000	3580000	3610000	395000	3595000	9.1
14	1E10C4	419000	421000	3912000	3987000	420000	3949500	9.4
15	1E10C5	375000	383000	3810000	3860000	379000	3835000	10.1
16	1E13C1	423000	427000	4216000	4199000	425000	4207500	9.9
17	1E13C2	459000	461000	4356000	4369000	460000	4362500	9.5
18	1E13C3	432000	440000	4560000	4520000	436000	4540000	10.4
19	1E13C4	461000	459000	4465000	4479000	460000	4472000	9.7
20	1E13C5	472000	474000	4579000	4620000	473000	4599500	9.7
21	1E15C1	462000	457000	4476000	4491000	459500	4483500	9.8
22	1A06C1	183000	179000	2510000	2510000	181000	2510000	13.9
23	1A06C2	176000	181000	2390000	3410000	178500	2900000	16.2
24	1A06C3	173200	174000	2230000	2250000	173600	2240000	12.9
25	1A06C4	187000	183000	2580000	2580000	185000	2580000	13.9
26	1A06C5	169000	173000	2010000	2130000	171000	2070000	12.1
27	1A08C1	187000	183000	2290000	2310000	185000	2300000	12.4

28	1A08C2	179000	176000	1890000	1910000	177500	1900000	10.7
29	1A08C3	173000	175000	2100000	2500000	174000	2300000	13.2
30	1A08C4	181000	174000	1970000	1990000	177500	1980000	11.2
31	1A08C5	176000	173000	1830000	1860000	174500	1845000	10.6
32	1A10C1	163000	165000	1730000	1740000	164000	1735000	10.6
33	1A10C2	159000	161000	1820000	1840000	160000	1830000	11.4
34	1A10C3	163000	159000	1670000	1710000	161000	1690000	10.5
35	1A10C4	156000	157000	1720000	1720000	156500	1720000	11.0
36	1A10C5	161000	162000	1690000	1680000	161500	1685000	10.4
37	1A13C1	102000	106000	1210000	1190000	104000	1200000	11.5
38	1A13C2	99000	95000	112000	112000	97000	112000	1.2
39	1A13C3	96000	97000	106000	106000	96500	106000	1.1
40	1B06C1	169000	168000	1760000	1770000	168500	1765000	10.5
41	1B06C2	172000	172000	1640000	1641000	172000	1640500	9.5
42	1B06C3	161000	161000	1780000	1730000	161000	1755000	10.9
43	1B06C4	179000	181000	1970000	1980000	180000	1975000	11.0
44	1B06C5	156000	161000	1710000	1690000	158500	1700000	10.7
45	1B08C1	117000	119000	1210000	1230000	118000	1220000	10.3
46	1B08C2	101000	103000	1160000	1140000	102000	1150000	11.3
47	1B08C3	109000	111000	1230000	1230000	110000	1230000	11.2
48	1B08C4	98000	98000	1010000	1020000	98000	1015000	10.4
49	1B08C5	114000	117000	1190000	1190000	115500	1190000	10.3
50	1B10C1	76000	77000	890000	870000	76500	880000	11.5
51	1B10C2	87000	87000	980000	970000	87000	975000	11.2
52	1B10C3	65000	66000	710000	690000	65500	700000	10.7
53	1B10C4	69000	71000	980000	950000	70000	965000	13.8
54	1B10C5	73000	73000	1010000	990000	73000	1000000	13.7
55	1B13C1	32000	31000	540000	540000	31500	540000	17.1
56	1B13C2	28000	28000	480000	450000	28000	465000	16.6
57	1B13C3	29100	29000	510000	500000	29050	505000	17.4
58	1B13C4	34000	34000	650000	620000	34000	635000	18.7

59	1B13C5	27000	28000	430000	440000	27500	435000	15.8
60	1D06C1	156000	154000	1830000	1830000	155000	1830000	11.8
61	1D06C2	143000	145000	1630000	1630000	144000	1630000	11.3
62	1D06C3	149000	151000	1750000	1640000	150000	1695000	11.3
63	1D06C4	132000	135000	1410000	1390000	133500	1400000	10.5
64	1D06C5	137000	137000	1210000	1200000	137000	1205000	8.8
65	1D08C1	117000	121000	1180000	1180000	119000	1180000	9.9
66	1D08C2	105000	109000	1240000	1310000	107000	1275000	11.9
67	1D08C3	98000	98000	109000	110000	98000	109500	1.1
68	1D08C4	89000	92000	103000	100000	90500	101500	1.1
69	1D08C5	101000	10000	980000	990000	55500	985000	17.7
70	1D10C1	75000	73000	870000	860000	74000	865000	11.7
71	1D10C2	67000	61000	780000	820000	64000	800000	12.5
72	1D10C3	71000	69000	820000	810000	70000	815000	11.6
73	1D10C4	64000	65000	760000	770000	64500	765000	11.9
74	1D10C5	69000	71000	810000	850000	70000	830000	11.9
75	1D13C1	24000	21000	390000	410000	22500	400000	17.8
76	1D13C2	31000	34000	460000	460000	32500	460000	14.2
77	1D13C3	29000	29000	320000	310000	29000	315000	10.9
78	1D13C4	26000	26000	290000	250000	26000	270000	10.4
79	1C06C1	173000	177000	1980000	1980000	175000	1980000	11.3
80	1C06C2	182000	184000	2190000	2110000	183000	2150000	11.7
81	1C06C3	184000	186000	2110000	2180000	185000	2145000	11.6
82	1C06C4	176000	179000	1870000	1870000	177500	1870000	10.5
83	1C06C5	183000	183000	2110000	2130000	183000	2120000	11.6
84	1C08C1	156000	156000	1650000	1690000	156000	1670000	10.7
85	1C08C2	167000	161000	1430000	1440000	164000	1435000	8.8
86	1C08C3	152000	149000	1210000	1230000	150500	1220000	8.1
87	1C08C4	154000	155000	1280000	1290000	154500	1285000	8.3
88	1C08C5	149000	151000	1210000	1220000	150000	1215000	8.1
89	1C10C1	132000	132000	1100000	1030000	132000	1065000	8.1

90	1C10C2	128000	128000	1010000	1040000	128000	1025000	8.0
91	1C10C3	115000	121000	1090000	1080000	118000	1085000	9.2
92	1C10C4	124000	125000	1260000	1270000	124500	1265000	10.2
93	1C10C5	119000	121000	1310000	1310000	120000	1310000	10.9
94	1C13C1	108000	109000	1170000	1140000	108500	1155000	10.6
95	1C13C2	111000	109000	1020000	1040000	110000	1030000	9.4
96	1C13C3	121000	118000	1040000	1010000	119500	1025000	8.6
97	1C13C4	118000	118000	1110000	1090000	118000	1100000	9.3
98	1C13C5	117000	121000	1070000	1050000	119000	1060000	8.9
99	1C15C1	101000	99000	1020000	1030000	100000	1025000	10.3
100	1C15C2	97000	91000	960000	1050000	94000	1005000	10.7
101	1C15C3	104000	101000	1120000	1090000	102500	1105000	10.8
102	1G06C1	129000	125000	1350000	1370000	127000	1360000	10.7
103	1G06C2	135000	137000	1540000	1560000	136000	1550000	11.4
104	1G06C3	139000	141000	1310000	1310000	140000	1310000	9.4
105	1G06C4	141000	143000	1270000	1270000	142000	1270000	8.9
106	1G06C5	134000	134000	1450000	1490000	134000	1470000	11.0
107	1G08C1	109000	104000	1280000	1320000	106500	1300000	12.2
108	1G08C2	112000	117000	1290000	1290000	114500	1290000	11.3
109	1G08C3	125000	131000	1420000	1540000	128000	1480000	11.6
110	1G08C4	101000	99000	1110000	1320000	100000	1215000	12.2
111	1G08C5	8600	8900	98000	101000	8750	99500	11.4
112	1G10C1	1290	1260	12500	13100	1275	12800	10.0
113	1G10C2	1200	1240	11700	11900	1220	11800	9.7
114	1G10C3	1320	1400	13800	14100	1360	13950	10.3
115	1G10C4	1180	1150	12900	13100	1165	13000	11.2
116	1G10C5	1200	1250	13400	13500	1225	13450	11.0
117	1G13C1	840	855	8900	9100	848	9000	10.6
118	1G13C2	815	820	7200	6900	818	7050	8.6
119	1G13C3	910	890	10100	9900	900	10000	11.1
120	1G13C4	650	720	9900	9400	685	9650	14.1

121	2E06C1	182000	186000	2510000	2540000	184000	2525000	13.7
122	2E06C2	181000	179000	2340000	2460000	180000	2400000	13.3
123	2E06C3	189000	188000	2350000	2350000	188500	2350000	12.5
124	2E06C4	173900	177000	2670000	2670000	175450	2670000	15.2
125	2E06C5	187000	185000	2190000	2200000	186000	2195000	11.8
126	2E08C1	335000	331000	3179000	3180000	333000	3179500	9.5
127	2E08C2	321000	321000	2980000	2879000	321000	2929500	9.1
128	2E08C3	314500	314500	2981000	2992000	314500	2986500	9.5
129	2E08C4	309000	307700	2850000	2850000	308350	2850000	9.2
130	2E08C5	327000	333000	2762000	2765000	330000	2763500	8.4
131	2E11C1	392000	387000	3450000	3450000	389500	3450000	8.9
132	2E11C2	387000	389000	3440000	3440000	388000	3440000	8.9
133	2E11C3	377000	377000	3650000	3690000	377000	3670000	9.7
134	2E11C4	369000	375000	3760000	3810000	372000	3785000	10.2
135	2E11C5	346000	452000	3860000	3910000	399000	3885000	9.7
136	2A06C1	181000	181000	2540000	2590000	181000	2565000	14.2
137	2A06C2	197000	195000	2470000	2490000	196000	2480000	12.7
138	2A06C3	192000	194000	2360000	2330000	193000	2345000	12.2
139	2A06C4	186000	184000	2490000	2490000	185000	2490000	13.5
140	2A06C5	182000	183000	2260000	2290000	182500	2275000	12.5
141	2A08C1	183000	182000	2380000	2310000	182500	2345000	12.8
142	2A08C2	178000	176000	2140000	2180000	177000	2160000	12.2
143	2A08C3	179000	177000	2290000	2270000	178000	2280000	12.8
144	2A08C4	184000	183000	2190000	2170000	183500	2180000	11.9
145	2A08C5	178000	177000	2010000	2000000	177500	2005000	11.3
146	2A11C1	159000	161000	1840000	1820000	160000	1830000	11.4
147	2A11C2	163000	162000	1790000	1780000	162500	1785000	11.0
148	2A11C3	156000	154000	1690000	1690000	155000	1690000	10.9
149	2A11C4	158000	158000	1760000	1750000	158000	1755000	11.1
150	2A11C5	154000	155000	1670000	1680000	154500	1675000	10.8
151	2A13C1	114000	114000	1070000	1110000	114000	1090000	9.6

152	2A13C2	96000	97000	199000	196000	96500	197500	2.0
153	2A13C3	102000	104000	1180000	1140000	103000	1160000	11.3
154	2A13C4	95000	98000	897000	894000	96500	895500	9.3
155	2A13C5	118000	121000	1350000	1320000	119500	1335000	11.2
156	2A15C1	89000	87000	1010000	980000	88000	995000	11.3
157	2B06C1	165000	168000	1580000	1570000	166500	1575000	9.5
158	2B06C2	169000	164000	1710000	1750000	166500	1730000	10.4
159	2B06C3	158000	161000	1560000	1550000	159500	1555000	9.7
160	2B06C4	154000	158000	1750000	1770000	156000	1760000	11.3
161	2B06C5	163000	163000	1520000	1530000	163000	1525000	9.4
162	2B08C1	115000	119000	1240000	1230000	117000	1235000	10.6
163	2B08C2	101000	104000	1150000	1170000	102500	1160000	11.3
164	2B08C3	108000	110000	1250000	1230000	109000	1240000	11.4
165	2B08C4	98000	94000	1040000	1080000	96000	1060000	11.0
166	2B08C5	107000	107000	1230000	1270000	107000	1250000	11.7
167	2B11C1	69000	67000	750000	790000	68000	770000	11.3
168	2B11C2	71000	74000	840000	860000	72500	850000	11.7
169	2B11C3	62000	62000	850000	850000	62000	850000	13.7
170	2B11C4	68000	68000	790000	770000	68000	780000	11.5
171	2B11C5	65000	67000	860000	870000	66000	865000	13.1
172	2D06C1	149000	151000	1740000	1750000	150000	1745000	11.6
173	2D06C2	148000	147000	1590000	1610000	147500	1600000	10.8
174	2D06C3	152000	153000	1670000	1640000	152500	1655000	10.9
175	2D06C4	148000	145000	1520000	1490000	146500	1505000	10.3
176	2D06C5	149000	149000	1580000	1560000	149000	1570000	10.5
177	2C06C1	169000	171000	1840000	1840000	170000	1840000	10.8
178	2C06C2	172000	173000	1970000	1940000	172500	1955000	11.3
179	2C06C3	165000	166000	1740000	1780000	165500	1760000	10.6
180	2C06C4	168000	164000	1860000	1870000	166000	1865000	11.2
181	2C06C5	178000	177000	1910000	1870000	177500	1890000	10.6
182	2C08C1	152000	152000	1790000	1780000	152000	1785000	11.7

183	2C08C2	157000	161000	1580000	1550000	159000	1565000	9.8
184	2C08C3	148000	151000	1380000	1350000	149500	1365000	9.1
185	2C08C4	149000	150000	1250000	1240000	149500	1245000	8.3
186	2C08C5	153000	155000	1410000	1420000	154000	1415000	9.2
187	2C11C1	125000	127000	1130000	1130000	126000	1130000	9.0
188	2C11C2	132000	133000	1280000	1270000	132500	1275000	9.6
189	2C11C3	107000	108000	1140000	1140000	107500	1140000	10.6
190	2C11C4	114000	115000	1320000	1330000	114500	1325000	11.6
191	2C11C5	116000	117000	1270000	1280000	116500	1275000	10.9
192	2C13C1	105000	106000	1010000	1020000	105500	1015000	9.6
193	2C13C2	108000	111000	1050000	1040000	109500	1045000	9.5
194	2C13C3	112000	113000	1180000	1140000	112500	1160000	10.3
195	2C13C4	109000	110000	1080000	1050000	109500	1065000	9.7
196	2C13C5	115000	116000	1100000	1110000	115500	1105000	9.6
197	2G06C1	188000	187000	2670000	2660000	187500	2665000	14.2
198	2G06C2	179000	179000	2570000	2560000	179000	2565000	14.3
199	2G06C3	181000	180000	2240000	2250000	180500	2245000	12.4
200	2G06C4	186000	185000	2340000	2330000	185500	2335000	12.6
201	2G06C5	183000	184000	2340000	2310000	183500	2325000	12.7
202	2G08C1	110000	108000	1070000	1060000	109000	1065000	9.8
203	2G08C2	102000	104000	1140000	1150000	103000	1145000	11.1
204	2G08C3	97000	98000	1040000	1080000	97500	1060000	10.9
205	2G08C4	94000	95000	1060000	1070000	94500	1065000	11.3
206	2G08C5	101000	104000	1100000	1080000	102500	1090000	10.6
207	2G11C1	1100	1200	15400	15500	1150	15450	13.4
208	2G11C2	1340	1340	12700	12800	1340	12750	9.5
209	2G11C3	1200	1200	13600	13600	1200	13600	11.3
210	2G11C4	1290	1290	11400	11500	1290	11450	8.9
211	2G11C5	1180	1200	14700	14500	1190	14600	12.3
212	3E06C1	179000	179000	2319000	2320000	179000	2319500	13.0
213	3E06C2	183000	181000	2190000	2210000	182000	2200000	12.1

214	3E06C3	173000	177000	2350000	2350000	175000	2350000	13.4
215	3E06C4	189000	186000	2162000	2164000	187500	2163000	11.5
216	3E06C5	182000	179000	2240000	2240000	180500	2240000	12.4
217	3E08C1	341000	337000	2650000	2710000	339000	2680000	7.9
218	3E08C2	356000	358100	2780000	2810000	357050	2795000	7.8
219	3E08C3	309000	311000	2940000	2940000	310000	2940000	9.5
220	3E08C4	321000	321000	2990000	2910000	321000	2950000	9.2
221	3E08C5	337000	331000	2820000	2820000	334000	2820000	8.4
222	3E11C1	412000	409000	3987000	3981000	410500	3984000	9.7
223	3A06C1	182000	183000	2280000	2290000	182500	2285000	12.5
224	3A06C2	194000	194000	2480000	2510000	194000	2495000	12.9
225	3A06C3	186000	182000	2390000	2370000	184000	2380000	12.9
226	3A06C4	192000	191000	2590000	2550000	191500	2570000	13.4
227	3A06C5	179000	181000	2340000	2390000	180000	2365000	13.1
228	3A08C1	177000	175000	2310000	2330000	176000	2320000	13.2
229	3A08C2	185000	184000	2240000	2220000	184500	2230000	12.1
230	3A08C3	177000	174000	2340000	2350000	175500	2345000	13.4
231	3A08C4	183000	189000	2280000	2280000	186000	2280000	12.3
232	3A08C5	186000	184000	2210000	2190000	185000	2200000	11.9
233	3A11C1	155000	154000	1730000	1720000	154500	1725000	11.2
234	3A11C2	158000	158000	1840000	1850000	158000	1845000	11.7
235	3A11C3	161000	159000	1720000	1750000	160000	1735000	10.8
236	3A11C4	153000	155000	1640000	1650000	154000	1645000	10.7
237	3A11C5	162000	158000	1520000	1540000	160000	1530000	9.6
238	3A13C1	108000	105000	1190000	1150000	106500	1170000	11.0
239	3A13C2	104000	100000	1240000	1210000	102000	1225000	12.0
240	3B06C1	156000	156000	1780000	1800000	156000	1790000	11.5
241	3B06C2	159000	154000	1690000	1680000	156500	1685000	10.8
242	3B06C3	155000	152000	1680000	1690000	153500	1685000	11.0
243	3B06C4	168000	165000	1540000	1540000	166500	1540000	9.2
244	3B06C5	163000	163000	1520000	1530000	163000	1525000	9.4



245	3B08C1	119000	117000	1180000	1210000	118000	1195000	10.1
246	3B08C2	108000	1080000	1010000	1050000	594000	1030000	1.7
247	3B08C3	95000	96000	1090000	1110000	95500	1100000	11.5
248	3B08C4	97000	99000	1050000	1080000	98000	1065000	10.9
249	3B08C5	99000	94000	1050000	1010000	96500	1030000	10.7
250	3B11C1	68000	67000	750000	740000	67500	745000	11.0
251	3B11C2	74000	73000	680000	660000	73500	670000	9.1
252	3B11C3	79000	77000	970000	960000	78000	965000	12.4
253	3B11C4	64000	64000	820000	810000	64000	815000	12.7
254	3B11C5	61000	61000	680000	670000	61000	675000	11.1
255	3B13C1	54000	51000	620000	630000	52500	625000	11.9
256	3B13C2	470000	490000	540000	570000	480000	555000	1.2
257	3D06C1	147000	146000	1780000	1760000	146500	1770000	12.1
258	3D06C2	154000	155000	1650000	1620000	154500	1635000	10.6
259	3D06C3	146000	142000	1580000	1610000	144000	1595000	11.1
260	3D06C4	152000	150000	1420000	1440000	151000	1430000	9.5
261	3D06C5	145000	147000	1380000	1350000	146000	1365000	9.3
262	3D08C1	115000	113000	1250000	1270000	114000	1260000	11.1
263	3D08C2	109000	111000	1170000	1130000	110000	1150000	10.5
264	3D08C3	102000	99000	1130000	1090000	100500	1110000	11.0
265	3D08C4	95000	98000	1050000	1070000	96500	1060000	11.0
266	3D08C5	98000	98000	1010000	990000	98000	1000000	10.2
267	3D11C1	57000	58000	710000	770000	57500	740000	12.9
268	3C06C1	174000	169000	1780000	1770000	171500	1775000	10.3
269	3C06C2	165000	162000	1830000	1870000	163500	1850000	11.3
270	3C06C3	172000	173000	1650000	1670000	172500	1660000	9.6
271	3C06C4	169000	167000	1720000	1720000	168000	1720000	10.2
272	3C06C5	164000	165000	1760000	1760000	164500	1760000	10.7
273	3C08C1	142000	144000	1630000	1630000	143000	1630000	11.4
274	3C08C2	149000	147000	1710000	1710000	148000	1710000	11.6
275	3C08C3	153000	155000	1380000	1350000	154000	1365000	8.9

276	3C08C4	155000	157000	1170000	1240000	156000	1205000	7.7
277	3C08C5	148000	148000	1340000	1350000	148000	1345000	9.1
278	3C11C1	128000	126000	1470000	1480000	127000	1475000	11.6
279	3C11C2	124000	125000	1140000	1130000	124500	1135000	9.1
280	3C11C3	117000	118000	1240000	1240000	117500	1240000	10.6
281	3C11C4	121000	119000	1010000	1000000	120000	1005000	8.4
282	3C11C5	123000	122000	1170000	1180000	122500	1175000	9.6
283	3C13C1	104000	103000	1210000	1190000	103500	1200000	11.6
284	3C13C2	105000	104000	1170000	1170000	104500	1170000	11.2
285	3C13C3	109000	110000	1180000	1160000	109500	1170000	10.7
286	3C13C4	98000	99000	1040000	1050000	98500	1045000	10.6
287	3C13C5	101000	102000	1060000	1070000	101500	1065000	10.5
288	3G06C1	177000	175000	2010000	1990000	176000	2000000	11.4
289	3G06C2	182000	183000	1870000	1880000	182500	1875000	10.3
290	3G06C3	175000	176000	1970000	1980000	175500	1975000	11.3
291	3G06C4	179000	180000	1790000	1770000	179500	1780000	9.9
292	3G06C5	174000	178000	2010000	2040000	176000	2025000	11.5
293	3G08C1	104000	1050000	1150000	1170000	577000	1160000	2.0
294	3G08C2	96000	98000	1040000	1050000	97000	1045000	10.8
295	3G08C3	92000	91000	1010000	990000	91500	1000000	10.9
296	3G08C4	98000	99000	1070000	1080000	98500	1075000	10.9
297	3G08C5	103000	104000	1180000	1190000	103500	1185000	11.4
298	3G11C1	930	940	11000	11500	935	11250	12.0
299	3G11C2	1000	1050	11200	12400	1025	11800	11.5
300	3G11C3	980	990	9980	9970	985	9975	10.1
301	3G11C4	990	1000	10200	10400	995	10300	10.4
302	3G11C5	920	920	9800	9700	920	9750	10.6
303	3G13C1	850	860	9600	9650	855	9625	11.3
304	3G13C2	810	820	9550	9560	815	9555	11.7

305	3G13C3	840	860	9750	9700	850	9725	11.4
306	3G13C4	910	950	10500	10000	930	10250	11.0