



ภาคผนวก

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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ภาคผนวก ก
ข้อมูลการเก็บตัวอย่าง

ลำดับ	ตัวอย่าง	สกุล	ชนิด	จังหวัด	จุดที่เก็บ
1	302	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
2	303	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
3	304	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
4	305	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
5	306	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
6	307	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
7	308	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
8	309	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
9	310	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
10	311	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
11	312	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
12	313	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
13	314	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางน้ำตู่
14	371	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางบง
15	373	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางบง
16	405	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางกำแพงหิน
17	406	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางกำแพงหิน
18	407	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางกำแพงหิน
19	409	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ปางกำแพงหิน
20	452	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ดอยกลาง
21	453	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ดอยกลาง
22	454	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	ดอยกลาง
23	564	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติแม่ว้าง
24	565	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติแม่ว้าง
25	566	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติแม่ว้าง

ลำดับ	ตัวอย่าง	สกุล	ชนิด	จังหวัด	จุดที่เก็บ
26	596	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติดอยผ้าห่มปก
27	597	<i>Limnonectes</i>	“ <i>taylori</i> ”	เชียงใหม่	อุทยานแห่งชาติดอยผ้าห่มปก
28	605	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติดอยผ้าห่มปก
29	606	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติดอยผ้าห่มปก
30	607	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติดอยผ้าห่มปก
31	608	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติดอยผ้าห่มปก
32	610	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติดอยผ้าห่มปก
33	611	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติดอยผ้าห่มปก
34	675	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อุทยานแห่งชาติแม่ว้าง
35	721	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	บ้านนาป่าแปก
36	722	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	บ้านนาป่าแปก
37	273	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	บ้านนาป่าแปก
38	724	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	บ้านนาป่าแปก
39	725	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	บ้านนาป่าแปก
40	726	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	บ้านนาป่าแปก
41	843	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
42	844	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
43	845	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
44	846	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
45	848	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
46	849	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
47	850	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
48	851	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
49	852	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
50	853	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	ดอยผกักกูด
51	932	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	บ้านป่าสักงาม
52	1057	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อมก๋อย
53	1058	<i>Limnonectes</i>	<i>taylori</i>	เชียงใหม่	อมก๋อย
54	1122	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน

ลำดับ	ตัวอย่าง	สกุล	ชนิด	จังหวัด	จุดที่เก็บ
55	1123	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
56	1124	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
57	1125	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
58	1202	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
59	1203	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
60	1204	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
61	1205	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
62	1206	<i>Limnonectes</i>	<i>taylori</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
63	1354	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	อุทยานแห่งชาติแม่สุรินทร์
64	1355	<i>Limnonectes</i>	<i>taylori</i>	แม่ฮ่องสอน	อุทยานแห่งชาติแม่สุรินทร์
65	567	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	อุทยานแห่งชาติแม่วาง
66	568	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	อุทยานแห่งชาติแม่วาง
67	569	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	อุทยานแห่งชาติแม่วาง
68	570	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	อุทยานแห่งชาติแม่วาง
69	883	<i>Limnonectes</i>	<i>gydenstolpei</i>	แม่ฮ่องสอน	ขุนยวม
70	884	<i>Limnonectes</i>	<i>gydenstolpei</i>	แม่ฮ่องสอน	ขุนยวม
71	885	<i>Limnonectes</i>	<i>gydenstolpei</i>	แม่ฮ่องสอน	ขุนยวม
72	886	<i>Limnonectes</i>	<i>gydenstolpei</i>	แม่ฮ่องสอน	ขุนยวม
73	887	<i>Limnonectes</i>	<i>gydenstolpei</i>	แม่ฮ่องสอน	ขุนยวม
74	920	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
75	921	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
76	922	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
77	923	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
78	924	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
79	925	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
80	926	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
81	927	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
82	928	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
83	929	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม

ลำดับ	ตัวอย่าง	สกุล	ชนิด	จังหวัด	จุดที่เก็บ
84	930	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
85	931	<i>Limnonectes</i>	<i>gydenstolpei</i>	เชียงใหม่	บ้านป่าสักงาม
86	1126	<i>Limnonectes</i>	<i>gydenstolpei</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
87	1127	<i>Limnonectes</i>	<i>gydenstolpei</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
88	1128	<i>Limnonectes</i>	<i>gydenstolpei</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
89	1129	<i>Limnonectes</i>	<i>gydenstolpei</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
90	1130	<i>Limnonectes</i>	<i>gydenstolpei</i>	ลำปาง	อุทยานแห่งชาติแจ้ซ้อน
91	1249	<i>Limnonectes</i>	<i>gydenstolpei</i>	น่าน	คอยภูฟ้า
92	1250	<i>Limnonectes</i>	<i>gydenstolpei</i>	น่าน	คอยภูฟ้า
93	1251	<i>Limnonectes</i>	<i>gydenstolpei</i>	น่าน	คอยภูฟ้า
94	1661	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	อุทยานแห่งชาติภูเรือ
95	1662	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	อุทยานแห่งชาติภูเรือ
96	1666	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	อุทยานแห่งชาติภูเรือ
97	1667	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	อุทยานแห่งชาติภูเรือ
98	1671	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	อุทยานแห่งชาติภูเรือ
99	1675	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
100	1676	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
101	1677	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
102	1678	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
103	1679	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
104	1680	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
105	1681	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
106	1682	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
107	1683	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
108	1684	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
109	1685	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
110	1686	<i>Limnonectes</i>	“ <i>gydenstolpei</i> ”	เลย	ภูหลวง
111	1687	<i>Limnonectes</i>	<i>gydenstolpei</i>	เลย	ภูหลวง
112	1711	<i>Limnonectes</i>	“ <i>gydenstolpei</i> ”	นครราชสีมา	สแกราช

ลำดับ	ตัวอย่าง	สกุล	ชนิด	จังหวัด	จุดที่เก็บ
113	1712	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
114	1713	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
115	1714	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
116	1715	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
117	1717	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
118	1718	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
119	1719	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
120	1720	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
121	1721	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
122	1722	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช
123	1723	<i>Limnonectes</i>	<i>gydenstolpei</i>	นครราชสีมา	สแกราช

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ภาคผนวก ข

ตารางแสดง ค่าความบริสุทธิ์ และปริมาณดีเอ็นเอที่สกัดได้ของกบ

number	sample	Concentration (ng / μ l)	Purity A260/A280
1	302	44.56	1.64
2	303	335.60	1.29
3	304	169.60	1.21
4	305	38.09	1.67
5	306	48.83	1.72
6	307	59.92	1.70
7	308	302.00	1.21
8	309	34.91	1.70
9	310	24.09	1.67
10	311	25.42	1.65
11	312	57.62	1.67
12	313	20.05	1.64
13	314	26.20	1.68
14	371	158.40	1.70
15	373	160.70	1.21
16	405	24.70	1.36
17	406	263.90	1.22
18	407	101.60	1.23
19	409	270.40	1.21
20	452	49.55	1.69
21	453	56.90	1.71
22	454	63.75	1.69
23	564	321.80	1.22
24	565	67.02	1.69
25	566	15.78	1.45

number	sample	Concentration (ng / μ l)	Purity A260/A280
26	596	10.48	1.58
27	597	10.42	1.52
28	605	218.40	1.21
29	606	122.40	1.67
30	607	51.79	1.27
31	608	11.87	1.67
32	610	43.50	1.68
33	611	25.56	1.63
34	675	272.80	1.20
35	721	86.76	1.23
36	722	87.51	1.24
37	723	33.10	1.71
38	724	282.40	1.21
39	725	497.10	1.24
40	726	241.50	1.21
41	843	39.20	1.27
42	844	84.98	1.22
43	845	240.30	1.21
44	846	113.70	1.21
45	848	107.90	1.70
46	849	28.82	1.74
47	850	43.93	1.25
48	851	123.60	1.71
49	852	122.40	1.43
50	853	158.40	1.20
51	932	242.50	1.24
52	1057	45.72	1.72
53	1058	54.95	1.75

number	sample	Concentration (ng / μ l)	Purity A260/A280
54	1122	530	1.23
55	1123	344.40	1.20
56	1124	59.62	1.26
57	1125	48.39	1.26
58	1202	100.67	1.67
59	1203	78.30	1.56
60	1204	4.53	1.57
61	1205	73.48	1.24
62	1206	10.54	1.75
63	1354	248.80	1.22
64	1355	166.10	1.19
65	567	354.20	1.20
66	568	137.30	1.23
67	569	154.50	1.25
68	570	188.90	1.70
69	883	277.40	1.27
70	884	202.70	1.23
71	885	138.10	1.30
72	886	167.93	1.59
73	887	150.00	1.71
74	920	325.10	1.23
75	921	176.40	1.24
76	922	179.40	1.23
77	923	200.30	1.23
78	924	285.10	1.23
79	925	140	1.29
80	926	323.30	1.24
81	927	67.40	1.30

number	sample	Concentration (ng / μ l)	Purity A260/A280
82	928	9.90	2.19
83	929	359.30	1.28
84	930	49.38	1.26
85	931	50.49	1.27
86	1126	70.33	1.23
87	1127	89.17	1.25
88	1128	143.50	1.25
89	1129	341.90	1.24
90	1130	255.70	1.23
91	1249	416.40	1.23
92	1250	200.60	1.26
93	1251	135.50	1.24
94	1661	145.80	1.43
95	1662	100.20	1.30
96	1666	88.12	1.40
97	1667	23.38	1.33
98	1671	98.10	1.67
99	1675	125.90	1.24
100	1676	232.30	1.24
101	1677	38.48	1.71
102	1678	237.50	1.27
103	1679	144.10	1.22
104	1680	227.40	1.22
105	1681	195.70	1.26
106	1682	139.30	1.23
107	1683	138.40	1.24
108	1684	243.40	1.21
109	1685	381.80	1.25

number	sample	Concentration (ng / μ l)	Purity A260/A280
110	1686	98.97	1.25
111	1687	310.40	1.23
112	1711	86.72	1.71
113	1712	77.52	1.70
114	1713	57.31	1.26
115	1714	221.40	1.23
116	1715	321	1.22
117	1717	223.50	1.23
118	1718	33.16	1.25
119	1719	130.60	1.24
120	1720	157.40	1.24
121	1721	20.66	1.40
122	1722	55.01	1.70
123	1723	134.60	1.24

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การเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขาปุ่มเหนือ *L. taylori* กับฐานข้อมูล GenBank ทำการ
Aliment เพื่อหาดำแหน่งนิวคลีโอไทด์ที่คล้ายกัน

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ตารางที่ 1 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	[45]
02	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
03	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
04	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
05	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
06	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
07	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
08	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
09	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
10	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
11	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
12	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
13	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
14	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
15	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
16	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
17	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
18	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
19	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
20	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
21	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
22	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
23	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
24	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
25	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
26	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
27	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
28	C	C	C	A	A	G	G	C	A	A	A	A	G	C	C	A	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G
29	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
30	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
31	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
32	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
33	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
34	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
35	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
36	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
37	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
38	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
39	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
40	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
41	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
42	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
43	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
44	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
45	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
46	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
47	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
48	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
49	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
50	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	A	T	T	G	
51	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
52	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
53	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
54	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
55	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A												

ตารางที่ 2 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	[90]
02	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
03	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
04	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
05	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
06	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
07	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
08	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
09	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
10	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
11	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
12	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
13	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
14	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
15	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
16	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
17	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
18	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
19	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
20	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
21	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
22	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
23	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
24	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
25	G	C	C	C	A	C	A	C	G	C	C	A	G	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
26	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
27	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
28	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
29	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
30	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
31	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
32	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
33	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
34	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
35	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
36	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
37	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
38	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
39	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
40	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
41	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
42	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
43	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
44	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
45	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
46	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	T	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
47	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
48	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
49	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
50	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
51	G	C	C	C	A	C	A	C	G	Y	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
52	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
53	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
54	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A																						

ตารางที่ 3 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	[135]
02	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
03	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
04	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
05	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
06	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
07	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
08	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
09	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
10	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
11	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
12	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
13	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
14	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
15	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
16	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
17	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
18	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
19	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	A	A	A	C	
20	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
21	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
22	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
23	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
24	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
25	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
26	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
27	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
28	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
29	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
30	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
31	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
32	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
33	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
34	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
35	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
36	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
37	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
38	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
39	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
40	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
41	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
42	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
43	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
44	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
45	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
46	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	A	A	A	C	
47	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
48	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
49	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
50	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
51	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
52	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
53	T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C</																												

ตารางที่ 4 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	[180]
01		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
02		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
03		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
04		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
05		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
06		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
07		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
08		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
09		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
10		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
11		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
12		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
13		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
14		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
15		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
16		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
17		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
18		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
19		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
20		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
21		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
22		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
23		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
24		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
25		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
26		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
27		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	T	G	G	A	A	
28		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	W	G	G	A	A	
29		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
30		A	T	Y	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	T	G	G	A	A	
31		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
32		A	T	T	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	W	G	G	A	A	
33		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	T	G	G	A	A	
34		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	T	G	G	A	A	
35		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
36		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
37		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
38		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
39		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
40		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
41		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
42		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
43		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
44		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
45		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
46		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
47		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
48		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
49		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
50		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
51		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C																						

ตารางที่ 5 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	[225]
02	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
03	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
04	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
05	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
06	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
07	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
08	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
09	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
10	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
11	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
12	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
13	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
14	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
15	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
16	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
17	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
18	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
19	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
20	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
21	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	K	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
22	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
23	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
24	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
25	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
26	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
27	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
28	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	K	
29	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
30	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
31	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
32	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
33	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
34	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
35	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
36	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
37	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
38	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
39	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
40	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
41	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
42	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
43	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
44	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
45	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
46	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
47	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	Y	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
48	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	Y	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
49	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
50	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
51	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	Y	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
52	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
53	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G																												

ตารางที่ 6 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	[B1]
02		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
03		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
04		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
05		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
06		T	T	T	C	T	G	A	T	C	A	Y	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
07		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
08		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
09		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
10		T	T	T	C	T	G	A	T	C	A	Y	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
11		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
12		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
13		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
14		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
15		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
16		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
17		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
18		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
19		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
20		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
21		T	T	T	C	T	G	A	T	C	A	C	G	R	T	G	C	G	A	C	G	A	A	C	A	G	T	G	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
22		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
23		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
24		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	W	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
25		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	W	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
26		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
27		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
28		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
29		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	S	G	T	A	G	
30		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
31		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
32		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
33		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	S	G	T	A	G	
34		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
35		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
36		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
37		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
38		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
39		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
40		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
41		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
42		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
43		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
44		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
45		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	T	C	C	A	G	C	G	T	A	G
46		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
47		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
48		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
49		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	S	G	T	A	G	
50		T	T	T	C	T	G	A	T	C	A	C	G	R	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	T	C	C	A	G	S	G	T	A	G
51		T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
52		T	T	T	C	T	G	A	T	C	A	C	G	G																																	

ตารางที่ 7 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	[360]
02		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
03		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
04		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
05		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
06		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
07		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
08		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
09		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
10		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
11		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
12		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
13		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
14		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
15		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
16		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
17		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
18		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
19		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
20		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
21		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
22		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
23		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
24		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
25		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
26		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
27		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
28		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
29		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
30		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
31		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
32		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
33		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
34		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
35		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
36		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
37		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
38		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
39		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
40		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
41		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
42		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
43		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
44		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
45		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
46		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
47		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
48		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
49		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
50		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
51		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
52		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
53		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T																

ตารางที่ 8 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำปมเหนือกับฐานข้อมูล GenBank

01	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	[405]
02	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
03	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
04	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
05	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
06	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
07	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
08	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
09	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
10	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
11	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
12	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
13	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
14	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
15	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
16	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
17	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
18	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
19	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
20	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
21	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
22	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
23	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
24	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
25	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
26	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
27	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
28	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
29	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
30	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
31	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
32	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
33	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	S	T	C	G	
34	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
35	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
36	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
37	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
38	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
39	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
40	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
41	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
42	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
43	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
44	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
45	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
46	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
47	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
48	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
49	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
50	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
51	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
52	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
53	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T</																											

ตารางที่ 9 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	[450]
02	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
03	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
04	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
05	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
06	G	T	C	G	T	C	A	A	T	G	C	C	Y	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
07	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
08	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
09	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
10	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
11	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
12	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
13	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
14	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
15	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
16	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
17	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
18	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
19	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
20	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
21	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
22	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
23	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
24	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
25	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
26	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
27	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
28	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
29	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
30	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
31	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
32	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
33	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
34	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
35	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
36	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C
37	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
38	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
39	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
40	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
41	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
42	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
43	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
44	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
45	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
46	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
47	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
48	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
49	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
50	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
51	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
52	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
53	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A																												

ตารางที่ 10 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขาปุ่มเหนือ *L. taylori* กับฐานข้อมูล

01	A	G	A	G	A	C	A	A	-	C	T	A	C	[463]
02	A	G	A	G	A	C	A	A	-	C	T	A	C	
03	A	G	A	G	A	C	A	A	-	C	T	A	C	
04	A	G	A	G	A	C	A	A	-	C	T	A	C	
05	A	G	A	G	A	C	A	A	-	C	T	A	C	
06	A	G	A	G	A	C	A	A	-	C	T	A	C	
07	A	G	A	G	A	C	A	A	-	C	T	A	C	
08	A	G	A	G	A	C	A	A	-	C	T	A	C	
09	A	G	A	G	A	C	A	A	-	C	T	A	C	
10	A	G	A	G	A	C	A	A	-	C	T	A	C	
11	A	G	A	G	A	C	A	A	-	C	T	A	C	
12	A	G	A	G	A	C	A	A	-	C	T	A	C	
13	A	G	A	G	A	C	A	A	-	C	T	A	C	
14	A	G	A	G	A	C	A	A	-	C	T	A	C	
15	A	G	A	G	A	C	A	A	-	C	T	A	C	
16	A	G	A	G	A	C	A	A	-	C	T	A	C	
17	A	G	A	G	A	C	A	A	-	C	T	A	C	
18	A	G	A	G	A	C	A	A	-	C	T	A	C	
19	A	G	A	G	A	C	A	A	-	C	T	A	C	
20	A	G	A	G	A	C	A	A	-	C	T	A	C	
21	A	G	A	G	A	C	R	A	-	C	T	A	C	
22	A	G	A	G	A	C	A	A	-	C	T	A	C	
23	A	G	A	G	A	C	A	A	-	C	T	A	C	
24	A	G	A	G	A	C	A	A	-	C	T	A	C	
25	A	G	A	G	A	C	A	A	-	C	T	A	C	
26	A	G	A	G	A	C	A	A	-	C	T	A	C	
27	A	G	A	G	A	C	A	A	-	C	T	A	C	
28	A	G	A	G	A	C	A	A	-	C	T	A	C	
29	A	G	A	G	A	C	A	A	-	C	T	A	C	
30	A	G	A	G	A	C	A	A	-	C	T	A	C	
31	A	G	A	G	A	C	A	A	-	C	T	A	C	
32	A	G	A	G	A	C	A	A	-	C	T	A	C	
33	A	G	A	G	A	C	A	A	-	Y	T	A	C	
34	A	G	A	G	A	C	A	A	-	C	T	A	C	
35	A	G	A	G	A	C	R	A	-	C	T	A	C	
36	A	G	A	G	A	C	R	A	-	C	T	A	C	
37	A	G	A	G	A	C	R	A	-	C	T	A	C	
38	A	G	A	G	A	C	R	A	-	C	T	A	C	
39	A	G	A	G	A	C	R	A	-	C	T	A	C	
40	A	G	A	G	A	C	R	A	-	C	T	A	C	
41	A	G	A	G	A	C	A	A	-	C	T	A	C	
42	A	G	A	G	A	C	A	A	-	C	T	A	C	
43	A	G	A	G	A	C	A	A	-	C	T	A	C	
44	A	G	A	G	A	C	A	A	-	C	T	A	C	
45	A	G	A	G	A	C	A	A	-	C	T	A	C	
46	A	G	A	G	A	C	A	A	-	C	T	A	C	
47	A	G	A	G	A	C	A	A	-	C	T	A	C	
48	A	G	A	G	A	C	A	A	-	C	T	A	C	
49	A	G	A	G	A	C	A	A	-	C	T	A	C	
50	A	G	A	G	A	C	A	A	-	C	T	A	C	
51	A	G	A	G	A	C	A	A	-	C	T	A	C	
52	A	G	A	G	A	C	R	A	-	C	T	A	C	
53	A	G	A	G	A	C	R	A	-	C	T	A	C	
54	A	G	A	G	A	C	A	A	-	C	T	A	C	
55	A	G	A	G	A	C	A	A	-	C	T	A	C	
56	A	G	A	G	A	C	A	A	-	C	T	A	C	
57	A	G	A	G	A	C	A	A	-	C	T	A	C	
58	A	G	A	G	A	C	A	A	-	C	T	A	C	
59	A	G	A	G	A	C	A	A	-	C	T	A	C	
60	A	G	A	G	A	C	A	A	-	C	T	A	C	
61	A	G	A	G	A	C	A	A	-	C	T	A	C	
62	G	G	A	G	A	G	G	A	-	C	G	A	C	
63	A	G	A	G	A	C	R	A	-	C	T	A	C	
64	A	G	A	G	A	C	R	A	-	C	T	A	C	
GU934456.1	A	G	A	G	A	G	G	A	-	C	T	A	C	
GU934457.1	A	G	A	G	A	G	C	A	-	C	T	A	C	
GU934458.1	A	G	A	G	A	G	G	A	-	C	G	A	C	
GU934461.1	A	G	A	G	A	C	T	A	-	C	T	A	C	[463]



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การเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขาปูมเหนือ *L. taylori* กับฐานข้อมูล GenBank ทำการ Aliment เพื่อหาดำแหน่งนิวคลีโอไทด์ที่คล้ายกัน

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
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ตารางที่ 1 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	[45]
02	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
03	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
04	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
05	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
06	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
07	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
08	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
09	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
10	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
11	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
12	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
13	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
14	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
15	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
16	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
17	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
18	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
19	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
20	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
21	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
22	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
23	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
24	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
25	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
26	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
27	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
28	C	C	C	A	A	G	G	C	A	A	A	A	G	C	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G
29	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
30	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
31	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
32	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
33	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
34	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
35	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
36	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
37	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
38	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
39	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
40	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	R	T	T	G	
41	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
42	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
43	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
44	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
45	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
46	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
47	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
48	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
49	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
50	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	A	T	T	G	
51	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
52	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
53	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
54	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A	A	G	T	C	A	A	T	G	T	T	G	
55	C	C	-	A	A	G	G	C	A	A	A	A	G	C	C	-	A	G	G	C	G	C	T	T	C	A	T	G	G	C	A	A												

ตารางที่ 2 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	[90]
02	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
03	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
04	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
05	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
06	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
07	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
08	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
09	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
10	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
11	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
12	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
13	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
14	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
15	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
16	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
17	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
18	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
19	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
20	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
21	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
22	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
23	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
24	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
25	G	C	C	C	A	C	A	C	G	C	C	A	G	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
26	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
27	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
28	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
29	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
30	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
31	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
32	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
33	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
34	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
35	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
36	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
37	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
38	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
39	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
40	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
41	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
42	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
43	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
44	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
45	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
46	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	T	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
47	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
48	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
49	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
50	G	C	C	C	A	C	A	C	G	C	C	T	C	C	A	T	C	T	T	C	Y	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
51	G	C	C	C	A	C	A	C	G	Y	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
52	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
53	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A	G	A	A	G	C	A	T	C	T	C	T	G	G	A	G	G	C	G	T	A	G	
54	G	C	C	C	A	C	A	C	G	C	C	A	C	C	A	T	C	T	T	C	C	A	A																						

ตารางที่ 3 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	[B3]
02		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
03		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
04		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
05		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
06		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
07		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
08		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
09		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
10		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
11		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
12		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
13		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
14		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
15		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
16		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
17		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
18		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
19		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	A	A	C		
20		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
21		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
22		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
23		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
24		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
25		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
26		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
27		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
28		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
29		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
30		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
31		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
32		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
33		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
34		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
35		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
36		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
37		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
38		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
39		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
40		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
41		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
42		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
43		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
44		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
45		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	G	A	A	C	
46		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	A	A	C		
47		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
48		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G	T	A	G	A	C	G	T	T	G	A	T	A	T	C	T	G	C	R	A	A	C	
49		T	A	A	T	G	C	A	G	C	C	A	A	A	C	A	A	A	C	A	A	A	C	A	A	T	C	G																						

ตารางที่ 4 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	[180]
01		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
02		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
03		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
04		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
05		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
06		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
07		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
08		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
09		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
10		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
11		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
12		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
13		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
14		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
15		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
16		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
17		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
18		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
19		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
20		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
21		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
22		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
23		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
24		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
25		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
26		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
27		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	T	G	G	A	A	
28		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	W	G	G	A	A	
29		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
30		A	T	Y	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	T	G	G	A	A	
31		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
32		A	T	T	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	W	G	G	A	A	
33		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	T	G	G	A	A	
34		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	R	G	T	G	G	A	A	
35		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
36		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
37		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
38		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
39		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
40		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
41		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
42		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
43		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
44		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
45		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
46		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
47		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
48		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
49		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	G	G	T	G	G	A	A	
50		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C	T	G	C	T	C	A	T	A	A	G	T	G	C	C	K	G	T	G	G	A	A	
51		A	T	C	G	G	A	T	T	G	G	A	G	C	C	A	T	T	G	T	T	C	A	T	C																						

ตารางที่ 5 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขางป๋มเหนือกับฐานข้อมูล GenBank

01	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	[225]
02	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
03	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
04	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
05	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
06	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
07	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
08	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
09	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
10	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
11	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
12	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
13	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
14	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
15	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
16	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
17	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
18	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
19	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
20	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
21	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	K	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
22	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
23	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
24	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
25	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
26	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
27	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
28	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	K	
29	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
30	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
31	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
32	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
33	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
34	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
35	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
36	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
37	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
38	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
39	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
40	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
41	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
42	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
43	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
44	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
45	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
46	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
47	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	Y	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
48	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	Y	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
49	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
50	A	T	K	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
51	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	Y	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
52	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G	A	T	G	G	T	A	C	G	C	T	T	G	G	C	C	A	A	G	T	T	G	A	G	A	T	A	G	
53	A	T	G	A	C	A	T	A	G	T	C	C	G	A	G	C	T	G																												

ตารางที่ 6 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	[B1]
02	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
03	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
04	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
05	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
06	T	T	T	C	T	G	A	T	C	A	Y	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
07	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
08	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
09	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
10	T	T	T	C	T	G	A	T	C	A	Y	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
11	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
12	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
13	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
14	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
15	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
16	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
17	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
18	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
19	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
20	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
21	T	T	T	C	T	G	A	T	C	A	C	G	R	T	G	C	G	A	C	G	A	A	C	A	G	T	G	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
22	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
23	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
24	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	W	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
25	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	W	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
26	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
27	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
28	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
29	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	S	G	T	A	G	
30	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
31	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
32	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
33	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	S	G	T	A	G	
34	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
35	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
36	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
37	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
38	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
39	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
40	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
41	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
42	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
43	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
44	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
45	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
46	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
47	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
48	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
49	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	S	G	T	A	G	
50	T	T	T	C	T	G	A	T	C	A	C	G	R	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	S	G	T	A	G	
51	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	A	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
52	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C	G	A	A	C	A	G	T	R	C	A	G	T	T	T	G	G	T	C	C	A	G	C	G	T	A	G	
53	T	T	T	C	T	G	A	T	C	A	C	G	G	T	G	C	G	A	C</																											

ตารางที่ 7 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	[360]
02		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
03		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
04		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
05		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
06		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
07		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
08		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
09		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
10		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
11		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
12		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
13		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
14		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
15		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
16		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
17		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
18		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
19		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
20		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
21		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
22		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
23		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
24		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
25		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
26		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
27		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
28		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
29		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
30		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
31		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
32		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
33		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
34		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
35		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
36		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
37		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
38		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
39		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
40		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
41		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
42		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
43		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
44		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
45		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
46		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
47		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
48		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
49		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
50		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
51		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
52		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T	G	T	G	A	A	G	T	T	A	C	C	C	T	G	G	
53		C	C	A	A	A	C	C	T	G	C	A	C	T	C	G	C	A	C	A	A	T	T	G	T	A	G	C	C	T																

ตารางที่ 8 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำปมเหนือกับฐานข้อมูล GenBank

01	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	[405]
02	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
03	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
04	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
05	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
06	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
07	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
08	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
09	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
10	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
11	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
12	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
13	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
14	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
15	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
16	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
17	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
18	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
19	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
20	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
21	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
22	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
23	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
24	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
25	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
26	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
27	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
28	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
29	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
30	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
31	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
32	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
33	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	S	T	C	G	
34	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
35	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
36	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
37	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
38	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
39	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
40	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
41	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
42	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
43	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
44	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
45	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
46	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
47	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
48	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
49	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
50	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
51	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
52	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T	A	G	A	A	G	A	C	A	C	T	A	G	G	C	C	A	A	-	T	T	T	T	C	T	C	G	
53	C	A	T	T	G	G	C	A	A	G	T	C	C	T	G	T	T	A	T</																											

ตารางที่ 9 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขำป๋มเหนือกับฐานข้อมูล GenBank

01	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	[450]
02	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
03	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
04	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
05	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
06	G	T	C	G	T	C	A	A	T	G	C	C	Y	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
07	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
08	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
09	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
10	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
11	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
12	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
13	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
14	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
15	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
16	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
17	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
18	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
19	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
20	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
21	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
22	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
23	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
24	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
25	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
26	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
27	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
28	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
29	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
30	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
31	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
32	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
33	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
34	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
35	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
36	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C
37	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
38	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
39	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
40	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
41	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
42	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
43	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
44	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
45	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
46	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
47	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
48	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
49	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
50	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
51	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	G	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
52	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A	A	G	G	R	A	A	C	T	G	G	G	T	A	C	C	C	A	C	A	G	G	G	G	A	G	T	C	
53	G	T	C	G	T	C	A	A	T	G	C	C	C	G	T	G	A	A																												

ตารางที่ 10 แสดงการเทียบลำดับข้อมูลนิวคลีโอไทด์ของกบหัวขาปุ่มเหนือ *L. taylori* กับฐานข้อมูล

01	A	G	A	G	A	C	A	A	-	C	T	A	C	[463]
02	A	G	A	G	A	C	A	A	-	C	T	A	C	
03	A	G	A	G	A	C	A	A	-	C	T	A	C	
04	A	G	A	G	A	C	A	A	-	C	T	A	C	
05	A	G	A	G	A	C	A	A	-	C	T	A	C	
06	A	G	A	G	A	C	A	A	-	C	T	A	C	
07	A	G	A	G	A	C	A	A	-	C	T	A	C	
08	A	G	A	G	A	C	A	A	-	C	T	A	C	
09	A	G	A	G	A	C	A	A	-	C	T	A	C	
10	A	G	A	G	A	C	A	A	-	C	T	A	C	
11	A	G	A	G	A	C	A	A	-	C	T	A	C	
12	A	G	A	G	A	C	A	A	-	C	T	A	C	
13	A	G	A	G	A	C	A	A	-	C	T	A	C	
14	A	G	A	G	A	C	A	A	-	C	T	A	C	
15	A	G	A	G	A	C	A	A	-	C	T	A	C	
16	A	G	A	G	A	C	A	A	-	C	T	A	C	
17	A	G	A	G	A	C	A	A	-	C	T	A	C	
18	A	G	A	G	A	C	A	A	-	C	T	A	C	
19	A	G	A	G	A	C	A	A	-	C	T	A	C	
20	A	G	A	G	A	C	A	A	-	C	T	A	C	
21	A	G	A	G	A	C	R	A	-	C	T	A	C	
22	A	G	A	G	A	C	A	A	-	C	T	A	C	
23	A	G	A	G	A	C	A	A	-	C	T	A	C	
24	A	G	A	G	A	C	A	A	-	C	T	A	C	
25	A	G	A	G	A	C	A	A	-	C	T	A	C	
26	A	G	A	G	A	C	A	A	-	C	T	A	C	
27	A	G	A	G	A	C	A	A	-	C	T	A	C	
28	A	G	A	G	A	C	A	A	-	C	T	A	C	
29	A	G	A	G	A	C	A	A	-	C	T	A	C	
30	A	G	A	G	A	C	A	A	-	C	T	A	C	
31	A	G	A	G	A	C	A	A	-	C	T	A	C	
32	A	G	A	G	A	C	A	A	-	C	T	A	C	
33	A	G	A	G	A	C	A	A	-	Y	T	A	C	
34	A	G	A	G	A	C	A	A	-	C	T	A	C	
35	A	G	A	G	A	C	R	A	-	C	T	A	C	
36	A	G	A	G	A	C	R	A	-	C	T	A	C	
37	A	G	A	G	A	C	R	A	-	C	T	A	C	
38	A	G	A	G	A	C	R	A	-	C	T	A	C	
39	A	G	A	G	A	C	R	A	-	C	T	A	C	
40	A	G	A	G	A	C	R	A	-	C	T	A	C	
41	A	G	A	G	A	C	A	A	-	C	T	A	C	
42	A	G	A	G	A	C	A	A	-	C	T	A	C	
43	A	G	A	G	A	C	A	A	-	C	T	A	C	
44	A	G	A	G	A	C	A	A	-	C	T	A	C	
45	A	G	A	G	A	C	A	A	-	C	T	A	C	
46	A	G	A	G	A	C	A	A	-	C	T	A	C	
47	A	G	A	G	A	C	A	A	-	C	T	A	C	
48	A	G	A	G	A	C	A	A	-	C	T	A	C	
49	A	G	A	G	A	C	A	A	-	C	T	A	C	
50	A	G	A	G	A	C	A	A	-	C	T	A	C	
51	A	G	A	G	A	C	A	A	-	C	T	A	C	
52	A	G	A	G	A	C	R	A	-	C	T	A	C	
53	A	G	A	G	A	C	R	A	-	C	T	A	C	
54	A	G	A	G	A	C	A	A	-	C	T	A	C	
55	A	G	A	G	A	C	A	A	-	C	T	A	C	
56	A	G	A	G	A	C	A	A	-	C	T	A	C	
57	A	G	A	G	A	C	A	A	-	C	T	A	C	
58	A	G	A	G	A	C	A	A	-	C	T	A	C	
59	A	G	A	G	A	C	A	A	-	C	T	A	C	
60	A	G	A	G	A	C	A	A	-	C	T	A	C	
61	A	G	A	G	A	C	A	A	-	C	T	A	C	
62	G	G	A	G	A	G	G	A	-	C	G	A	C	
63	A	G	A	G	A	C	R	A	-	C	T	A	C	
64	A	G	A	G	A	C	R	A	-	C	T	A	C	
GU934456.1	A	G	A	G	A	G	G	A	-	C	T	A	C	
GU934457.1	A	G	A	G	A	G	C	A	-	C	T	A	C	
GU934458.1	A	G	A	G	A	G	G	A	-	C	G	A	C	
GU934461.1	A	G	A	G	A	C	T	A	-	C	T	A	C	[463]



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ประวัติผู้เขียน

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