

MATERIAL TRANSFER AGREEMENT

1. The parties to this agreement are:
 - a) Faculty of Science, Chiang Mai University (CMU), 239 Huay Kaew Road, Chiang Mai Thailand 50200 (hereinafter referred to as CMU) and;
 - b) Thompson Rivers University (TRU), 805 TRU Way, Kamloops, British Columbia, Canada, (hereinafter referred to as RECIPIENT)
2. The MATERIAL that is covered by this agreement means bacterial strains isolated at CMU (strains as more particularly described in Schedule A attached to this agreement), and any cells that are replicated or derived directly or indirectly from said MATERIAL.
3. The MATERIAL can be distributed to co-workers under the RECIPIENT's direct supervision. Release of the MATERIAL to colleagues in institutions other than the Recipient's workplace can be granted after written permission is obtained from CMU.
4. This agreement and the resulting transfer of MATERIAL constitute a license to use the MATERIAL solely for academic or other not-for-profit purposes. The MATERIAL will not be used in research that is subject to consulting or licensing obligations to another organization unless prior written permission is obtained from CMU.

The RECIPIENT will inform CMU in confidence of all research results related to the MATERIAL upon request, by personal written communication or by providing CMU with a manuscript describing the results of such research at the time the manuscript is submitted for publication.

If the research which involves the MATERIAL results in an invention or substance which may be commercially useful, RECIPIENT will promptly disclose that invention or substance to CMU. The RECIPIENT will promptly supply CMU in confidence with a copy of the disclosure and with samples of the derived material or other substances for CMU's research and evaluation purposes only.

5. With respect to Intellectual Property Rights, the RECIPIENT shall provide CMU with appropriate recognition of CMU's contribution. Such recognition may take the form of:
 - (i) a joint ownership in intellectual property in case of joint research with financial return allocated according to contribution from each end,
 - (ii) a license to use the invention or substance, and/or
 - (iii) a share in the royalty payments due under such a license
6. The RECIPIENT will use the MATERIAL in compliance with all its nation laws and regulations. The MATERIAL is experimental in nature, and it is provided by CMU without warranty of any sort, expressed or implied. CMU makes no representation that the use of the MATERIAL will not infringe any patent or other proprietary right.
7. This Agreement will be effective for five years from the date of agreement or on thirty days written notice by either party to the other. Upon the effective date of termination, or if requested, the deferred effective date of termination, RECIPIENT will discontinue its use of the material and will, upon direction of the CMU, return or destroy any remaining material.

Signed by the parties this _____ day of _____, 2018.

For and on behalf of CMU (OWNER)

Torrain Chairuangsi

Prof. Dr. Torranin Chairuangsi
Dean
Faculty of Science, Chiang Mai University
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Date *Jan 14, 2019*

C. Phalaraksh

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Date *Jan 11, 2019*

Wasu Pathom-aree

Asst. Prof. Dr. Wasu Pathom-aree
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239 Huay Kaew Road
Chiang Mai 50200 Thailand

Date *Jan 11, 2019*

For and on behalf of the RECIPIENT

W.F. Garrett-Petts

Dr. W.F. Garrett-Petts
Associate Vice President
Research & Graduate Studies
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805 TRU Way
Kamloops, British Columbia
V2C 0C8 Canada

Date *Oct 31, 2018*

ACKNOWLEDGEMENT:

I, the PRINCIPAL INVESTIGATOR for Thompson Rivers University, having read this agreement, hereby agree to act in accordance with all the terms and conditions herein and further agree to ensure that all participants of the RECIPIENT are informed of their obligations under such terms and conditions

Ann Cheeptham

Prof. Dr. Naowarat Cheeptham (Ann)
Department of Biological Sciences
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805 TRU Way
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V2C 0C8 Canada

Date *Oct 31, 2018*

SCHEDULE A

Strains from Faculty of Science, Chiang Mai University (CMU), 15 August 2018

No.	Strain name	CMU name	Date	Source
1	P32-1	CMU1	June 2017	Moss <i>Brachythecium buchananii</i>
2	P32-20	CMU2	June 2017	Moss <i>Brachythecium buchananii</i>
3	P32-18	CMU3	June 2017	Moss <i>Brachythecium buchananii</i>
4	P32-5	CMU4	June 2017	Moss <i>Brachythecium buchananii</i>
5	P32-21	CMU5	June 2017	Moss <i>Brachythecium buchananii</i>
6	P32-12	CMU6	June 2017	Moss <i>Brachythecium buchananii</i>
7	P32-11	CMU7	June 2017	Moss <i>Brachythecium buchananii</i>
8	P32-13	CMU8	June 2017	Moss <i>Brachythecium buchananii</i>
9	P32-19	CMU9	June 2017	Moss <i>Brachythecium buchananii</i>
10	P32-22	CMU10	June 2017	Moss <i>Brachythecium buchananii</i>
11	P32-10	CMU11	June 2017	Moss <i>Brachythecium buchananii</i>
12	P32-15	CMU12	June 2017	Moss <i>Brachythecium buchananii</i>
13	P32-2	CMU13	June 2017	Moss <i>Brachythecium buchananii</i>
14	P33-1	CMU14	June 2017	Moss <i>Didymodon maschalogena</i>
15	P33-21	CMU15	June 2017	Moss <i>Didymodon maschalogena</i>
16	P33-4	CMU16	June 2017	Moss <i>Didymodon maschalogena</i>
17	P33-3	CMU17	June 2017	Moss <i>Didymodon maschalogena</i>
18	P33-8	CMU18	June 2017	Moss <i>Didymodon maschalogena</i>
19	P33-17	CMU19	June 2017	Moss <i>Didymodon maschalogena</i>
20	P33-26	CMU20	June 2017	Moss <i>Didymodon maschalogena</i>
21	P33-11	CMU21	June 2017	Moss <i>Didymodon maschalogena</i>
22	P49-11	CMU22	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
23	P49-14	CMU23	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
24	P49-21	CMU24	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
25	P49-18	CMU25	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
26	P49-15	CMU26	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
27	P49-8	CMU27	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
28	P49-3	CMU28	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
29	P49-13	CMU29	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
30	P49-10	CMU30	June 2017	Moss <i>Macrothamnium submacrocarpum</i>
31	P54-15	CMU31	June 2017	Moss <i>Bryum recurvulum</i>
32	P54-7	CMU32	June 2017	Moss <i>Bryum recurvulum</i>
33	P54-12	CMU33	June 2017	Moss <i>Bryum recurvulum</i>
34	P54-16	CMU34	June 2017	Moss <i>Bryum recurvulum</i>
35	P11-5	CMU35	June 2017	Moss <i>Thuidium cymbifolium</i>
36	P11-3	CMU36	June 2017	Moss <i>Thuidium cymbifolium</i>
37	S3-26	CMU37	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
38	S3-31	CMU38	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
39	S3-30	CMU39	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
40	S3-32	CMU40	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
41	S3-53	CMU41	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>

42	S3-21	CMU42	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
43	S3-54	CMU43	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
44	S3-50	CMU44	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
45	S3-11	CMU45	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
46	S3-16	CMU46	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
47	S3-17	CMU47	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
48	S3-33	CMU48	June 2017	Rhizospheric soil of moss <i>Pogonatum microstomum</i>
49	S32-43	CMU49	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
50	S32-77	CMU50	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
51	S32-52	CMU51	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
52	S32-23	CMU52	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
53	S32-26	CMU53	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
54	S32-63	CMU54	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
55	S32-74	CMU55	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
56	S32-19	CMU56	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
57	S32-55	CMU57	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
58	S32-10	CMU58	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
59	S32-17	CMU59	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
60	S32-5	CMU60	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
61	S32-29	CMU61	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
62	S32-76	CMU62	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
63	S32-65	CMU63	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
64	S32-79	CMU64	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
65	S32-27	CMU65	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
66	S32-6	CMU66	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
67	S32-45	CMU67	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
68	S32-48	CMU68	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
69	S32-53	CMU69	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
70	S32-11	CMU70	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
71	S32-33	CMU71	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
72	S32-37	CMU72	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
73	S32-30	CMU73	June 2017	Rhizospheric soil of moss <i>Brachythecium buchananii</i>
74	S13-1	CMU74	June 2017	Rhizospheric soil of moss <i>Plagiomnium maximoviczii</i>
75	S13-2	CMU75	June 2017	Rhizospheric soil of moss <i>Plagiomnium maximoviczii</i>
76	S13-3	CMU76	June 2017	Rhizospheric soil of moss <i>Plagiomnium maximoviczii</i>
77	S6-12	CMU77	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
78	S6-18	CMU78	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
79	S6-3	CMU79	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
80	S6-26	CMU80	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
81	S6-17	CMU81	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
82	S6-28	CMU82	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
83	S6-27	CMU83	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
84	S6-14	CMU84	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
85	S6-4	CMU85	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
86	S6-6	CMU86	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
87	S6-3	CMU87	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
88	S6-31	CMU88	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
89	S6-11	CMU89	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>
90	S6-21	CMU90	June 2017	Rhizospheric soil of moss <i>Hypnum flaccens</i>

91	S33-1	CMU91	June 2017	Rhizospheric soil of <i>Didymodon maschalogena</i>
92	S54-4	CMU92	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
93	S54-19	CMU93	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
94	S54-11	CMU94	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
95	S54-15	CMU95	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
96	S54-18	CMU96	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
97	S54-13	CMU97	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
98	S54-16	CMU98	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
99	S54-14	CMU99	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
100	S54-19	CMU100	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
101	S54-21	CMU101	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
102	S54-17	CMU102	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
103	S54-2	CMU103	June 2017	Rhizospheric soil of <i>Bryum recurvulum</i>
104	R MO1_5	CMU104	August 2016	Mueang On Cave, Soil sample 1
105	R MO1_6	CMU105	August 2016	Mueang On Cave, Soil sample 1
106	R MO1_10	CMU106	August 2016	Mueang On Cave, Soil sample 1
107	R MO1_12	CMU107	August 2016	Mueang On Cave, Soil sample 1
108	R MO1_13	CMU108	August 2016	Mueang On Cave, Soil sample 1
109	R MO1_14	CMU109	August 2016	Mueang On Cave, Soil sample 1
110	R MO1_15	CMU110	August 2016	Mueang On Cave, Soil sample 1
111	R MO1_16	CMU111	August 2016	Mueang On Cave, Soil sample 1
112	R MO1_17	CMU112	August 2016	Mueang On Cave, Soil sample 1
113	R MO1_20	CMU113	August 2016	Mueang On Cave, Soil sample 1
114	R2A MO1_2	CMU114	August 2016	Mueang On Cave, Soil sample 1
115	R2A MO1_3	CMU115	August 2016	Mueang On Cave, Soil sample 1
116	R2A MO3_1	CMU116	August 2016	Mueang On Cave, Soil sample 3
117	R2A MO3_2	CMU117	August 2016	Mueang On Cave, Soil sample 3
118	PRO MO1_1	CMU118	August 2016	Mueang On Cave, Soil sample 1
119	PRO MO1_2	CMU119	August 2016	Mueang On Cave, Soil sample 1
120	PRO MO1_3	CMU120	August 2016	Mueang On Cave, Soil sample 1
121	PRO MO1_4	CMU121	August 2016	Mueang On Cave, Soil sample 1
122	PRO MO1_5	CMU122	August 2016	Mueang On Cave, Soil sample 1
123	PRO MO1_7	CMU123	August 2016	Mueang On Cave, Soil sample 1
124	PRO MO1_10	CMU124	August 2016	Mueang On Cave, Soil sample 1
125	PRO MO1_11	CMU125	August 2016	Mueang On Cave, Soil sample 1
126	PRO MO1_12	CMU126	August 2016	Mueang On Cave, Soil sample 1
127	PRO MO1_13	CMU127	August 2016	Mueang On Cave, Soil sample 1
128	PRO MO1_14	CMU128	August 2016	Mueang On Cave, Soil sample 1
129	PRO MO1_15	CMU129	August 2016	Mueang On Cave, Soil sample 1
130	PRO MO1_16	CMU130	August 2016	Mueang On Cave, Soil sample 1
131	PRO MO1_17	CMU131	August 2016	Mueang On Cave, Soil sample 1
132	PRO MO1_18	CMU132	August 2016	Mueang On Cave, Soil sample 1
133	PRO MO1_19	CMU133	August 2016	Mueang On Cave, Soil sample 1
134	PRO MO1_20	CMU134	August 2016	Mueang On Cave, Soil sample 1
135	PRO MO1_21	CMU135	August 2016	Mueang On Cave, Soil sample 1
136	PRO MO1_22	CMU136	August 2016	Mueang On Cave, Soil sample 1
137	PRO MO1_23	CMU137	August 2016	Mueang On Cave, Soil sample 1
138	PRO MO1_24	CMU138	August 2016	Mueang On Cave, Soil sample 1
139	PRO MO1_25	CMU139	August 2016	Mueang On Cave, Soil sample 1

140	PRO MO1_26	CMU140	August 2016	Mueang On Cave, Soil sample 1
141	PRO MO1_27	CMU141	August 2016	Mueang On Cave, Soil sample 1
142	PRO MO1_28	CMU142	August 2016	Mueang On Cave, Soil sample 1
143	PRO MO1_29	CMU143	August 2016	Mueang On Cave, Soil sample 1
144	PRO MO1_30	CMU144	August 2016	Mueang On Cave, Soil sample 1
145	PRO MO3_1	CMU145	August 2016	Mueang On Cave, Soil sample 3
146	PRO MO3_2	CMU146	August 2016	Mueang On Cave, Soil sample 3
147	PRO MO3_3	CMU147	August 2016	Mueang On Cave, Soil sample 3
148	PRO MO3_4	CMU148	August 2016	Mueang On Cave, Soil sample 3
149	PRO MO3_5	CMU149	August 2016	Mueang On Cave, Soil sample 3
150	PRO MO3_6	CMU150	August 2016	Mueang On Cave, Soil sample 3
151	PRO MO3_7	CMU151	August 2016	Mueang On Cave, Soil sample 3
152	RW MO1_7	CMU152	August 2016	Mueang On Cave, Water sample 1
153	RW MO1_20	CMU153	August 2016	Mueang On Cave, Water sample 1
154	RW MO3_1	CMU154	August 2016	Mueang On Cave, Water sample 3
155	RW MO3_2	CMU155	August 2016	Mueang On Cave, Water sample 3
156	RW MO3_3	CMU156	August 2016	Mueang On Cave, Water sample 3
157	RW MO3_4	CMU157	August 2016	Mueang On Cave, Water sample 3
158	RW MO3_5	CMU158	August 2016	Mueang On Cave, Water sample 3
159	RW MO3_6	CMU159	August 2016	Mueang On Cave, Water sample 3
160	RW MO3_7	CMU160	August 2016	Mueang On Cave, Water sample 3
161	RW MO3_8	CMU161	August 2016	Mueang On Cave, Water sample 3
162	R2AW MO1_1	CMU162	August 2016	Mueang On Cave, Water sample 1
163	R2AW MO1_2	CMU163	August 2016	Mueang On Cave, Water sample 1
134	R2AW MO1_3	CMU164	August 2016	Mueang On Cave, Water sample 1
165	R2AW MO1_4	CMU165	August 2016	Mueang On Cave, Water sample 1
166	R2AW MO1_5	CMU166	August 2016	Mueang On Cave, Water sample 1
167	R2AW MO1_6	CMU167	August 2016	Mueang On Cave, Water sample 1
168	R2AW MO1_7	CMU168	August 2016	Mueang On Cave, Water sample 1
169	R2AW MO1_8	CMU169	August 2016	Mueang On Cave, Water sample 1
170	R2AW MO1_9	CMU170	August 2016	Mueang On Cave, Water sample 1
171	R2AW MO1_10	CMU171	August 2016	Mueang On Cave, Water sample 1
172	R2AW MO1_11	CMU172	August 2016	Mueang On Cave, Water sample 1
173	R2AW MO1_12	CMU173	August 2016	Mueang On Cave, Water sample 1
174	R2AW MO1_13	CMU174	August 2016	Mueang On Cave, Water sample 1
175	R2AW MO1_14	CMU175	August 2016	Mueang On Cave, Water sample 1
176	R2AW MO1_16	CMU176	August 2016	Mueang On Cave, Water sample 1
177	R2AW MO1_17	CMU177	August 2016	Mueang On Cave, Water sample 1
178	R2AW MO1_18	CMU178	August 2016	Mueang On Cave, Water sample 1
179	R2AW MO1_19	CMU179	August 2016	Mueang On Cave, Water sample 1
180	R2AW MO1_20	CMU180	August 2016	Mueang On Cave, Water sample 1
181	R2AW MO1_21	CMU181	August 2016	Mueang On Cave, Water sample 1
182	R2AW MO1_22	CMU182	August 2016	Mueang On Cave, Water sample 1
183	R2AW MO1_23	CMU183	August 2016	Mueang On Cave, Water sample 1
184	R2AW MO1_24	CMU184	August 2016	Mueang On Cave, Water sample 1
185	R2AW MO1_25	CMU185	August 2016	Mueang On Cave, Water sample 1
186	R2AW MO1_26	CMU186	August 2016	Mueang On Cave, Water sample 1
187	R2AW MO1_27	CMU187	August 2016	Mueang On Cave, Water sample 1
188	R2AW MO1_28	CMU188	August 2016	Mueang On Cave, Water sample 1

189	PROW MO1_8	CMU189	August 2016	Mueang On Cave, Water sample 1
190	PROW MO1_9	CMU190	August 2016	Mueang On Cave, Water sample 1
191	PROW MO1_10	CMU191	August 2016	Mueang On Cave, Water sample 1
192	PROW MO1_23	CMU192	August 2016	Mueang On Cave, Water sample 1
193	PROW MO1_24	CMU193	August 2016	Mueang On Cave, Water sample 1
194	PROW MO3_1	CMU194	August 2016	Mueang On Cave, Water sample 3
195	PROW MO3_2	CMU195	August 2016	Mueang On Cave, Water sample 3