Table S1: Summary of molecular identification, cellulases activity, and morphological characteristics of soil bacterial isolates

№	Isolate code	Species name	Similarity, %	HC, cellulose			HC, hemicellulose / Congo red	Lignin / methylene blue (+/-)	Gram staining	Shape of bacteria
				Congo red	Gram's iodine solution	Congo red agar (+/-)				
1	1G.4	*Stenotrophomonas rhizophila*	100	6.1	0.0	-	0.0	-	-	rod
2	1G.14	*Ralstonia insidiosa*	100	3.0	0.0	-	0.0	+	-	rod
3	1G.17	*Bacillus pumilus*	100	4.6	0.0	+	0.0	-	+	rod
4	1G.29	*Streptomyces atratus*	99.92	2.6	4.7	+	7.1	-	+	filamentous
5	1G.32	*Arthrobacter bambusae*	100	4.9	0.0	+	0.0	-	+	rod
6	1G.34	*Bacillus altitudinis*	100	3.4	0.0	-	0.0	-	+	rod
7	1G.49	*Micromonospora chalcea*	99.92	3.3	5.8	+	8.0	-	+	filamentous
8	1G.56	*Sphingobium yanoikuyae*	100	3.1	2.7	+	0.0	+	-	rod
9	1G.1	*Microbacterium hydrocarbonoxydans*	99.76	4.4	3.9	+	0.0	-	+	rod
10	1G.36	*Bacillus horneckiae*	100	4.2	0.0	+	0.0	-	+	rod
11	1G.15	*Bacillus pumilus*	99.84	6.8	0.0	+	0.0	-	+	rod
12	1G.38	*Streptomyces aureus*	99.92	4.7	2.7	+	4.0	-	+	filamentous
13	3G.2	*Bacillus mobilis*	100	3.1	0.0	+	0.0	-	+	rod
14	3G.10	*Streptomyces badius*	100	4.2	2.7	+	5.7	-	+	filamentous
15	3G.14	*Paenarthrobacter nicotinovorans*	99.76	5.7	0.0	+	0.0	-	+	curved rods
16	3G.15	*Bacillus idriensis*	99.77	3.9	3.8	+	0.0	-	+	rod
17	3G.22	*Streptomyces griseus*	100	5.1	0.0	-	0.0	-	+	filamentous
18	3G.21	*Streptomyces cirratus*	100	2.2	0.0	+	0.0	-	+	filamentous
19	3G.18	*Agromyces humatus*	99.2	4.0	6.7	+	0.0	-	+	rod
20	3G.17	*Oerskovia paurometabola*	100	7.5	3.7	-	0.0	-	+	cocci
21	3G.23	*Pseudarthrobacter equi*	99.6	5.0	0.0	+	0.0	-	+	rod
22	3G.36	*Agromyces cerinus*	99.2	5.1	5.0	+	0.0	-	-	rod
23	3G.30	*Microbacterium phyllosphaerae*	99.77	3.5	5.3	+	0.0	-	-	rod
24	3G.32	*Oerskovia paurometabola*	99.92	4.0	4.8	-	0.0	-	-	cocci
25	3G.33	*Bacillus altitudinis*	100	4.1	0.0	+	0.0	-	+	rod
26	5G.1	*Bacillus thermoamylovorans*	99.77	3.6	5.6	+	0.0	-	+	rod
27	5G.4	*Arthrobacter nitrophenolicus*	100	4.5	0.0	+	0.0	-	+	rod
28	5G.6	*Micromonospora tulbaghiae*	99.92	4.4	6.0	+	5.6	-	+	filamentous

29	5G.13	*Bacillus pumilus*	99.92	5.2	0.0	+	0.0	-	+	rod
30	5G.17	*Bacillus mobilis*	100	3.3	2.7	+	0.0	+	+	rod
31	5G.23	*Streptomyces canus*	99.67	4.3	6.2	+	2.4	-	+	filamentous
32	5G.37	*Bacillus licheniformis*	99.47	3.1	4.3	+	0.0	-	+	rod
33	5G.42	*Pantoea agglomerans*	99.62	3.5	2.9	-	0.0	+	-	rod
34	5G.43	*Stenotrophomonas maltophilia*	99.46	4.6	0.0	+	0.0	-	-	rod
35	5G.45	*Paenarthrobacter nicotinovorans*	99.53	3.9	1.5	+	0.0	-	+	cocci
36	5G.8	*Bacillus pumilus*	100	3.6	0.0	+	0.0	-	+	rod
37	1TG.2	*Arthrobacter pascens*	99.22	4.9	0.0	-	0.0	-	+	cocci
38	1TG.5	*Streptomyces canus*	99.61	2.3	3.3	+	2.3	-	+	filamentous
39	1TG.18	*Bacillus mobilis*	99.47	2.8	3.0	+	0.0	-	+	rod
40	1TG.19	*Pedobacter terrae*	99.39	3.1	0.0	+	4.4	-	-	rod
41	1TG.23	*Paenarthrobacter nitroguajacolicus*	99.77	6.8	2.1	+	0.0	-	+	cocci
42	3TG.5	*Bacillus pumilus*	99.85	3.8	0.0	-	4.5	-	+	rod
43	3TG.7	*Pseudomonas fluorescens*	99.69	2.8	2.3	-	0.0	-	-	rod
44	3TG.9	*Bacillus halotolerans*	99.79	7.8	5.4	+	5.4	-	+	rod
45	3TG.13	*Massilia plicata*	99.77	3.3	5.0	+	0.0	-	-	rod
46	3TG.16	*Fictibacillus barbaricus*	99.62	6.1	5.4	+	0.0	-	+	rod
47	3TG.18	*Pseudomonas graminis*	99.69	2.3	2.1	-	0.0	+	-	rod
48	3TG.19	*Bacillus megaterium*	99.85	4.8	3.1	+	0.0	-	+	rod
49	3TG.21	*Streptomyces achromogenes subsp. Tomaymyceticus*	99.77	2.0	2.1	+	4.3	-	+	filamentous
50	3TG.26	*Streptomyces graminofaciens*	98.92	2.7	5.0	+	0.0	-	+	filamentous
51	3TG.27	*Streptomyces argenteolus*	99.77	4.8	2.7	+	5.1	-	+	filamentous
52	5TG.3	*Arthrobacter pascens*	99.61	4.4	2.1	+	0.0	-	+	cocci
53	5TG.4	*Stenotrophomonas rhizophila*	99.7	7.3	0.0	-	0.0	-	-	rod
54	5TG.6	*Arthrobacter pascens*	100	3.7	3.8	+	0.0	-	+	cocci
55	5TG.15.1	*Peribacillus butanolivorans*	97.02	2.7	0.0	+	0.0	-	+	rod
56	5TG.18	*Paenibacillus pectinilyticus*	99.08	3.8	5.5	+	3.3	-	+	rod
57	5TG.21	*Pseudomonas lini*	100	3.5	0.0	-	0.0	-	-	rod
58	5TG.22	*Bacillus niacini*	99.52	4.0	4.1	+	0.0	-	+	rod
59	5TG.23	*Chryseobacterium elymi*	99.15	5.4	0.0	+	0.0	-	-	cocci
60	5G.25.1	*Terrabacter carboxydivorans*	99.05	6.9	4.8	+	0.0	-	+	rod
61	5TG.25.2	*Terrabacter carboxydivorans*	99.46	8.0	4.7	+	0.0	-	+	rod
62	5TG.32	*Agromyces cerinus*	99.53	6.3	5.0	+	1.3	-	-	rod

63	5TG.15.2	*Peribacillus butanolivorans*	99.46	2.4	0.0	+	0.0	-	+	rod
64	5TG.16	*Streptomyces spororaveus*	99.76	2.2	0.0	+	0.0	-	+	filamentous