

sample	xMAP (1 Resistant, 2 Susceptible)	Phenotypically DST (1 Resistant, 2 Susceptible)						WGS_Clockwork pipeline_mutations ranked in Group 1&2 (1 Resistant, 2 Susceptible)			TB profiler		
	FQ	INH	RFP	OFL	OFL MIC	MOX	MOX MIC	FQ	MOX(mutation)	LFX(mutation)	lineage_coll	MOX(mutation)	OFL(mutation)
1	2	1	2	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
2	2	1	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
3	2	1	2	2	0.25	2	0.25	2	0	0	lineage4.5	-	-
4	2	1	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
5	2	1	2	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
6	2	1	2	2	0.5	2	0.12	2	0	0	lineage2.2.1	-	-
7	2	1	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
8	2	1	2	2	2	2	0.5	2	0	0	lineage2.2.1	-	-
9	2	1	2	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
10	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
11	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
12	2	1	2	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
13	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
14	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
15	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
16	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
17	2	1	1	2	0.25	2	0.06	2	0	0	lineage4.4.2	-	-
18	2	1	1	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
19	1	1	1	1	32	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
20	1	1	1	1	32	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
21	1	1	1	1	8	1	4	1	gyrA_D94A;	gyrA_D94A;	lineage2.2.1	gyrA_p.Asp94Ala	gyrA_p.Asp94Ala
22	1	2	2	1	16	1	4	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
23	2	2	1	2	0.25	2	0.25	2	0	0	lineage4.4.2	-	-
24	2	2	1	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
25	2	1	1	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
26	2	2	1	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
27	2	2	1	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
28	2	1	1	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
29	2	2	1	2	1	2	0.5	2	0	0	lineage4.4.2	-	-
30	2	2	1	2	1	2	0.25	2	0	0	lineage4.4.2	-	-
31	2	2	1	2	0.25	2	0.12	2	0	0	lineage2.2.1	-	-

32	2	2	1	2	0.25	2	0.25	2	0	0	lineage2.2.1	-	-
33	2	2	1	2	1	2	0.5	2	0	0	lineage4.4.2	-	-
34	2	1	1	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
35	1	1	1	1	8	1	4	1	gyrA_D94A;	gyrA_D94A;	lineage2.2.1	gyrA_p.Asp94Ala	gyrA_p.Asp94Ala
36	1	1	1	1	16	1	4	1	gyrA_D94Y;	gyrA_D94Y;	lineage2.2.1	gyrA_p.Asp94Tyr	gyrA_p.Asp94Tyr
37	1	2	1	1	16	1	4	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
38	1	1	1	2	2	1	1	1	gyrA_D94Y;	gyrA_D94Y;	lineage2.2.1	gyrA_p.Asp94Tyr	gyrA_p.Asp94Tyr
39	2	1	1	2	0.25	2	0.12	2	0	0	lineage2.2.1	-	-
40	2	1	1	2	0.25	2	0.12	2	0	0	lineage4.5	-	-
41	2	1	1	2	0.12	2	0.12	2	0	0	lineage2.2.1	-	-
42	2	1	1	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
43	2	1	1	2	2	2	0.5	2	0	0	lineage2.2.1.1	-	-
44	2	1	1	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
45	2	1	1	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
46	2	1	1	2	1	2	0.25	2	0	0	lineage2.2.1.1	-	-
47	2	1	1	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
48	2	1	2	2	0.5	2	0.25	2	0	0	lineage4.2.2	-	-
49	2	1	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
50	2	1	1	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
51	2	1	1	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
52	2	1	1	2	2	1	2	2	0	0	lineage2.2.1	gyrA_p.Asp89Asn	gyrA_p.Asp89Asn
53	2	1	1	2	0.25	2	0.25	2	0	0	lineage2.2.1	-	-
54	2	1	1	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
55	2	1	1	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
56	1	1	1	1	32	1	8	1	gyrA_D94N;	gyrA_D94N;	lineage2.2.1	gyrA_p.Asp94Asn	gyrA_p.Asp94Asn
57	1	1	1	1	16	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
58	1	1	1	1	8	1	4	1	gyrA_A90V;	gyrA_A90V;	lineage2.2.1	gyrA_p.Ala90Val	gyrA_p.Ala90Val
59	1	1	1	1	8	1	8	1	gyrA_S91P;	gyrA_S91P;	lineage2.2.1.1	gyrA_p.Ser91Pro	gyrA_p.Ser91Pro
60	1	1	1	1	16	1	4	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
61	1	1	1	1	8	1	2	1	gyrA_A90V;	gyrA_A90V;	lineage2.2.1	gyrA_p.Ala90Val	gyrA_p.Ala90Val
62	1	2	2	2	0.5	2	0.25	1	gyrA_D94N;	gyrA_D94N;	lineage2.2.1	gyrA_p.Asp94Asn	gyrA_p.Asp94Asn
63	1	1	1	1	32	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
64	2	1	2	2	0.5	2	0.25	2	0	0	lineage4.5	-	-
65	2	2	2	2	0.5	2	0.25	2	0	0	lineage4.4.2	-	-
66	2	2	2	2	0.25	2	0.12	2	0	0	lineage2.2.1	-	-
67	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
68	2	2	2	2	0.25	2	0.25	2	0	0	lineage2.2.1	-	-
69	2	1	1	2	0.5	2	0.12	2	0	0	lineage2.2.1	-	-

70	2	1	2	2	1	2	0.5	2	0	0	lineage4.5	-	-
71	1	2	2	1	16	1	4	1	gyrA_D94H;	gyrA_D94H;	lineage2.2.1	gyrA_p.Asp94His	gyrA_p.Asp94His
72	2	1	2	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
73	2	1	1	2	1	2	0.25	2	0	0	lineage2.2.1.1	-	-
74	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
75	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
76	1	2	2	1	8	1	4	1	gyrA_S91P;	gyrA_S91P;	lineage4.4.2	gyrA_p.Ser91Pro	gyrA_p.Ser91Pro
77	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
78	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
79	2	1	2	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
80	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
81	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
82	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
83	2	2	1	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
84	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
85	1	1	1	1	8	1	2	1	gyrA_S91P;	gyrA_S91P;	lineage2.2.1	gyrA_p.Ser91Pro	gyrA_p.Ser91Pro
86	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
87	2	1	2	2	1	2	0.5	2	0	0	lineage4.5	-	-
88	1	1	2	1	16	1	8	1	gyrA_A90V;gyrA_D94G;	gyrA_A90V;gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly, gyrA_p.Ala90Val	gyrA_p.Asp94Gly, gyrA_p.Ala90Val
89	1	2	2	1	16	1	8	1	gyrA_D94Y;	gyrA_A288D;gyrA_D94Y;	lineage2.2.1	gyrA_p.Asp94Tyr	gyrA_p.Asp94Tyr
90	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
91	2	1	2	2	0.25	2	0.25	2	0	0	lineage4.5	-	-
92	1	1	1	1	32	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage4.5	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
93	1	1	1	1	32	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage4.5	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
94	2	2	2	1	8	1	4	2	0	0	lineage2.2.1	gyrA_p.Asp89Asn	gyrA_p.Asp89Asn
95	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
96	1	1	1	1	32	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage4.4.2	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
97	2	2	1	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
98	1	2	2	1	32	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage4.5	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
99	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1.1	-	-
100	2	1	1	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
101	1	1	2	1	16	1	8	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
102	2	1	1	2	1	2	0.5	2	0	0	lineage4.1.2.1	-	-
103	2	2	1	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
104	2	1	2	2	1	2	0.25	2	0	0	lineage4.4	-	-
105	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-

106	1	1	1	1	16	1	8	1	gyrA_D94N;	gyrA_D94N;	lineage2.2.1	gyrA_p.Asp94Asn	gyrA_p.Asp94Asn
107	1	1	1	1	16	1	4	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
108	1	1	1	1	16	1	4	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
109	2	1	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
110	2	1	1	2	2	2	0.5	2	0	0	lineage4.2.2	-	-
111	1	1	1	1	16	1	4	1	gyrA_D94G;	gyrA_D94G;	lineage2.2.1	gyrA_p.Asp94Gly	gyrA_p.Asp94Gly
112	2	1	2	2	1	2	0.5	2	0	0	lineage4.4.2	-	-
113	2	2	1	2	1	2	0.5	2	0	0	lineage4.4.2	-	-
114	2	1	1	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
115	2	1	2	2	1	2	0.5	2	0	0	lineage4.4.2	-	-
116	2	1	1	2	1	2	0.5	2	0	0	lineage4.2.2	-	-
117	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
118	2	1	2	2	1	2	0.5	2	0	0	lineage2.2.1	-	-
119	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
120	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1.1	-	-
121	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
122	2	2	2	2	1	1	1	2	0	0	lineage4	gyrB_p.Asn499Ly	gyrB_p.Asn499Lys
123	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
124	1	2	2	1	8	1	4	1	gyrA_A90V;gyrA_D94A;	gyrA_A90V;gyrA_D94A;	lineage4.4.2	gyrA_p.Ala90Val, gyrA_p.Asp94Ala	gyrA_p.Ala90Val, gyrA_p.Asp94Ala
125	2	2	2	2	0.25	2	0.12	2	0	0	lineage4.5	-	-
126	1	2	2	1	4	1	4	1	gyrA_D94H;	gyrA_D94H;	lineage4.4.2	gyrA_p.Asp94His	gyrA_p.Asp94His
127	1	2	2	1	4	1	2	1	gyrA_A90V;	gyrA_A90V;	lineage4.5	gyrA_p.Ala90Val	gyrA_p.Ala90Val
128	2	2	2	2	0.5	2	0.25	2	0	0	lineage4.2.2	-	-
129	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
130	2	1	2	2	0.5	2	0.5	2	0	0	lineage4.2.2	-	-
131	2	2	2	2	0.5	2	0.12	2	0	0	lineage2.2.2	-	-
132	1	1	1	1	4	1	1	1	gyrA_A90V;	gyrA_A90V;	lineage2.2.1	gyrA_p.Ala90Val	gyrA_p.Ala90Val
133	1	2	2	1	4	1	4	1	gyrA_A90V;gyrA_S91P;	gyrA_A90V;gyrA_S91P;	lineage2.2.1	gyrA_p.Ala90Val, gyrA_p.Ser91Pro	gyrA_p.Ala90Val, gyrA_p.Ser91Pro
134	2	2	2	2	0.25	2	0.25	2	0	0	lineage2.2.1	-	-
135	2	2	2	2	0.25	2	0.12	2	0	0	lineage2.2.1	-	-
136	1	2	2	1	4	1	2	1	gyrA_D94A;	gyrA_D94A;	lineage4.5	gyrA_p.Asp94Ala	gyrA_p.Asp94Ala
137	1	2	2	1	8	1	4	1	gyrA_S91P;	gyrA_S91P;	lineage4.4.2	gyrA_p.Ser91Pro	gyrA_p.Ser91Pro
138	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
139	2	1	2	2	2	2	0.5	2	0	0	lineage2.2.1	-	-
140	1	2	1	1	16	1	4	1	gyrA_D94Y;	gyrA_D94Y;	lineage2.2.1	gyrA_p.Asp94Tyr	gyrA_p.Asp94Tyr
141	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1.1	-	-

142	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
143	1	2	2	1	16	1	8	1	gyrA_D94N;	gyrA_D94N;	lineage2.2.1	gyrA_p.Asp94Asn	gyrA_p.Asp94Asn
144	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
145	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
146	2	2	2	2	0.5	2	0.25	2	0	0	lineage4.5	-	-
147	2	2	2	2	0.5	2	0.25	2	0	0	lineage4.4.2	-	-
148	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
149	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
150	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
151	2	1	1	1	4	1	4	2	0	0	lineage2.2.1	-	-
152	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
153	2	2	2	2	1	2	0.25	2	0	0	lineage4.4	-	-
154	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
155	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
156	2	2	2	2	0.5	2	0.25	2	0	0	lineage4.4.2	-	-
157	2	2	2	2	1	2	0.25	2	0	0	lineage4.4.2	-	-
158	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
159	2	1	2	1	4	1	1	2	0	0	lineage4.5	-	-
160	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
161	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
162	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
163	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
164	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
165	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
166	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
167	2	2	2	2	0.5	2	0.25	2	0	0	lineage4.4.2	-	-
168	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
169	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
170	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
171	2	2	2	1	8	2	0.25	2	0	0	lineage2.2.1	-	-
172	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
173	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
174	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
175	2	2	2	2	0.25	2	0.12	2	0	0	lineage4	-	-
176	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
177	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
178	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1.1	-	-
179	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1.1	-	-

180	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
181	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
182	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
183	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
184	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
185	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
186	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
187	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
188	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
189	2	2	2	2	0.5	2	0.25	2	0	0	lineage4.5	-	-
190	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
191	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
192	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
193	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
194	2	2	2	2	0.5	2	0.25	2	0	0	lineage2.2.1	-	-
195	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
196	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
197	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
198	2	2	2	2	0.5	2	0.12	2	0	0	lineage2.2.1	-	-
199	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
200	2	2	2	2	0.5	2	0.12	2	0	0	lineage2.2.1	-	-
201	2	2	2	2	1	2	0.25	2	0	0	lineage4.4.2	-	-
202	2	2	2	2	0.5	2	0.12	2	0	0	lineage4.5	-	-
203	2	2	2	2	1	2	0.25	2	0	0	lineage4.4.2	-	-
204	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
205	2	2	2	2	1	2	0.25	2	0	0	lineage4.5	-	-
206	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
207	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
208	2	2	2	2	1	2	0.25	2	0	0	lineage2.2.1	-	-
209	2	2	2	2	0.25	2	0.12	2	0	0	lineage2.2.1	-	-
210	2	2	2	2	0.25	2	0.12	2	0	0	lineage4	-	-