Distribution of emm-types per emm-cluster[1,2]

emm types	emm-cluster
4, 60, 78, 165 (st11014), 176 (st213)	E1
13, 27, 50 (50/62), 66, 68, 76, 90, 92, 96, 104, 106, 110, 117, 166 (st1207), 168 (st1389)	E2
9, 15, 25, 44 (44/61), 49, 58, 79, 82, 87, 103, 107, 113, 118, 144 (stknb1), 180 (st2460), 183 (st2904), 209 (st6735), 219 (st9505), 231 (stNS292)	E3
2, 8, 22, 28, 73, 77, 84, 88, 89, 102, 109, 112 , 114, 124, 169 (st1731), 175 (st212), 232 (stN554)	E4
34, 51, 134 (st2105), 137 (st465), 170 (st1815), 174 (st211), 205 (st5282)	E5
11, 42, 48, 59, 63, 65 (65/69), 67, 75, 81, 85, 94, 99, 139 (st7323), 158 (stxh1), 172 (st2037), 177 (st2147), 182 (st2861UK), 191 (st369)	E6
164 (st106M), 185 (st2917), 211 (st7406), 236 (sts104)	Single protein emm-cluster clade X
36, 54, 207 (st6030)	D1
32, 71, 100, 115, 213 (st7700)	D2
123, 217 (st809)	D3
33, 41, 43, 52, 53, 56, 56.2 (st3850), 64, 70, 72, 80, 83, 86, 91, 93, 98, 101, 108, 116, 119, 120, 121, 178 (st22), 186 (st2940), 192 (st3757), 194 (st38), 208 (st62), 223 (stD432), 224 (stD631), 225 (stD633), 230 (stNS1033), 242 (st2926)	D4
97, 157 (stn165), 184 (st2911)	D5
46, 142 (st818)	A-C1
30, 197 (st4119)	A-C2
1, 163 (st413) 227 (stil103), 238 (1-2), 239 (1-4)	A-C3
12, 39, 193 (st3765), 228 (stil62), 229 (stmd216)	A-C4
3, 31, 133 (st1692)	A-C5
5, 6, 14, 17, 18, 19, 23, 24, 26, 29, 37, 38 (38/40), 47, 57, 74, 105, 122, 140 (st7395), 179 (st221), 218 (st854), 233 (stNS90), 234 (stpa57)	Single protein emm-cluster clade Y
55, 95, 111, 215 (st804), 221 (stCK249), 222 (stCK401)	Single protein emm-cluster outlier

[1]Sanderson-Smith M, De Oliveira DM, Guglielmini J, McMillan DJ, Vu T, Holien JK, Henningham A, Steer AC, Bessen DE, Dale JB, Curtis N, Beall BW, Walker MJ, Parker MW, Carapetis JR, Van Melderen L, Sriprakash KS, Smeesters PR; The M Protein Study Group. 2014. A systematic and functional classification of *Streptococcus pyogenes* that serves as a new tool for molecular typing and vaccine development. J Infect Dis. May 5. pii: jiu260.

[2]Baroux N, D'Ortenzio E, Amédéo N, Baker C, Ali Alsuwayyid B, Dupont-Rouzeyrol M, O'Connor O, Steer A, Smeesters PR. 2014. The emm-Cluster Typing System for Group A Streptococcus Identifies Epidemiologic Similarities Across the Pacific Region. Clin Infect Dis. Jun 25. pii: ciu490.