Supplementary materials

图示

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Supplementary Figure 1. Schematic flow chart of the study procedure

图示

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Supplementary Figure 2. MSDL Method vs. Radiomics Method. Kaplan-Meier curves for high recurrence risk and low recurrence risk patients predicted by Radiomics method in the development cohort (B) and validation cohort (D). Comparison between

图表, 散点图

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Supplementary Figure 3. Heatmap of different expression genes between high and low risk group

Supplementary Table 1. The risk groups and CT signature of CRC patients in this study.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TuominID | Cohort | CT-signature | Risk\_group | Gene-Data |
| A028 | Development | 0.9994 | High Risk | No |
| A029 | Development | 0.9999 | High Risk | No |
| A055 | Development | 0.0431 | Low Risk | No |
| A057 | Development | 0.9998 | High Risk | No |
| A054 | Development | 0.0361 | Low Risk | No |
| A058 | Development | 0.0086 | Low Risk | No |
| A051 | Development | 0.0629 | Low Risk | No |
| A062 | Development | 0.5374 | High Risk | No |
| A063 | Development | 0.0434 | Low Risk | No |
| A064 | Development | 0.2336 | Low Risk | No |
| A065 | Development | 0.4640 | Low Risk | No |
| A056 | Development | 0.0642 | Low Risk | No |
| A066 | Development | 0.9998 | High Risk | No |
| A060 | Development | 1.0000 | High Risk | No |
| A061 | Development | 0.0327 | Low Risk | No |
| A030 | Development | 0.9997 | High Risk | No |
| A031 | Development | 0.0473 | Low Risk | No |
| A033 | Development | 0.0544 | Low Risk | No |
| A032 | Development | 0.1827 | Low Risk | No |
| A034 | Development | 0.2906 | Low Risk | No |
| A036 | Development | 0.9994 | High Risk | No |
| A039 | Development | 0.9998 | High Risk | No |
| A040 | Development | 0.0403 | Low Risk | No |
| A041 | Development | 0.9997 | High Risk | No |
| A043 | Development | 0.9991 | High Risk | No |
| A035 | Development | 0.9991 | High Risk | No |
| A037 | Development | 0.0800 | Low Risk | No |
| A046 | Development | 0.4452 | Low Risk | No |
| A048 | Development | 0.1267 | Low Risk | No |
| A042 | Development | 0.1322 | Low Risk | No |
| A044 | Development | 0.0280 | Low Risk | No |
| A045 | Development | 0.5189 | High Risk | No |
| A047 | Development | 0.9998 | High Risk | No |
| A050 | Development | 0.0788 | Low Risk | No |
| A053 | Development | 0.9998 | High Risk | No |
| A052 | Development | 0.9999 | High Risk | No |
| A067 | Development | 0.9983 | High Risk | No |
| A106 | Development | 0.0393 | Low Risk | No |
| A107 | Development | 0.4767 | Low Risk | No |
| A111 | Development | 0.0179 | Low Risk | Yes |
| A112 | Development | 0.2121 | Low Risk | No |
| A113 | Development | 0.9980 | High Risk | Yes |
| A114 | Development | 0.2132 | Low Risk | No |
| A110 | Development | 0.0265 | Low Risk | No |
| A109 | Development | 0.0289 | Low Risk | No |
| A117 | Development | 0.0244 | Low Risk | No |
| A119 | Development | 0.0335 | Low Risk | Yes |
| A116 | Development | 0.1758 | Low Risk | No |
| A120 | Development | 0.0277 | Low Risk | No |
| A122 | Development | 0.0193 | Low Risk | No |
| A001 | Development | 0.0596 | Low Risk | No |
| A002 | Development | 1.0000 | High Risk | Yes |
| A121 | Development | 0.9997 | High Risk | No |
| A118 | Development | 0.0196 | Low Risk | No |
| A071 | Development | 0.0355 | Low Risk | No |
| A070 | Development | 0.0297 | Low Risk | No |
| A069 | Development | 1.0000 | High Risk | No |
| A072 | Development | 0.0285 | Low Risk | No |
| A068 | Development | 0.9999 | High Risk | No |
| A074 | Development | 0.0396 | Low Risk | No |
| A077 | Development | 0.0380 | Low Risk | No |
| A076 | Development | 0.9965 | High Risk | No |
| A078 | Development | 0.0720 | Low Risk | No |
| A073 | Development | 0.0103 | Low Risk | No |
| A079 | Development | 0.0484 | Low Risk | No |
| A080 | Development | 0.9948 | High Risk | No |
| A075 | Development | 0.4236 | Low Risk | No |
| A083 | Development | 0.9966 | High Risk | No |
| A085 | Development | 0.0409 | Low Risk | No |
| A082 | Development | 0.0289 | Low Risk | No |
| A086 | Development | 0.0245 | Low Risk | No |
| A087 | Development | 0.0763 | Low Risk | No |
| A084 | Development | 0.0266 | Low Risk | No |
| A088 | Development | 0.0284 | Low Risk | No |
| A089 | Development | 0.0368 | Low Risk | No |
| A081 | Development | 0.9438 | High Risk | No |
| A092 | Development | 0.0364 | Low Risk | No |
| A094 | Development | 0.9999 | High Risk | No |
| A091 | Development | 0.9996 | High Risk | No |
| A096 | Development | 0.9999 | High Risk | No |
| A097 | Development | 0.0433 | Low Risk | No |
| A095 | Development | 0.9997 | High Risk | No |
| A099 | Development | 0.0949 | Low Risk | No |
| A100 | Development | 0.1271 | Low Risk | No |
| A098 | Development | 0.1813 | Low Risk | No |
| A102 | Development | 0.0300 | Low Risk | No |
| A101 | Development | 0.0384 | Low Risk | No |
| A103 | Development | 0.8581 | High Risk | No |
| A104 | Development | 0.0366 | Low Risk | No |
| A124 | Development | 0.9999 | High Risk | No |
| A125 | Development | 0.0224 | Low Risk | No |
| A123 | Development | 0.0203 | Low Risk | Yes |
| A126 | Development | 0.2738 | Low Risk | No |
| A022 | Development | 0.0562 | Low Risk | Yes |
| A142 | Development | 0.0198 | Low Risk | No |
| A145 | Development | 0.1086 | Low Risk | Yes |
| A143 | Development | 0.9995 | High Risk | No |
| A144 | Development | 0.9987 | High Risk | Yes |
| A146 | Development | 1.0000 | High Risk | Yes |
| A141 | Development | 0.0202 | Low Risk | No |
| A147 | Development | 0.0199 | Low Risk | Yes |
| A150 | Development | 0.0192 | Low Risk | No |
| A153 | Development | 0.0758 | Low Risk | Yes |
| A154 | Development | 0.0720 | Low Risk | Yes |
| A155 | Development | 0.0378 | Low Risk | Yes |
| A148 | Development | 0.0702 | Low Risk | Yes |
| A151 | Development | 0.0512 | Low Risk | Yes |
| A149 | Development | 0.2958 | Low Risk | Yes |
| A152 | Development | 0.0945 | Low Risk | Yes |
| A127 | Development | 0.1107 | Low Risk | No |
| A129 | Development | 0.2952 | Low Risk | No |
| A130 | Development | 0.0447 | Low Risk | No |
| A128 | Development | 0.1325 | Low Risk | No |
| A131 | Development | 0.0331 | Low Risk | No |
| A049 | Development | 1.0000 | High Risk | No |
| A132 | Development | 0.1006 | Low Risk | No |
| A003 | Development | 0.0155 | Low Risk | No |
| A133 | Development | 0.9996 | High Risk | No |
| A134 | Development | 0.9993 | High Risk | No |
| A135 | Development | 0.0324 | Low Risk | No |
| A137 | Development | 0.1152 | Low Risk | Yes |
| A136 | Development | 0.9990 | High Risk | Yes |
| A139 | Development | 0.0394 | Low Risk | No |
| A138 | Development | 0.0388 | Low Risk | No |
| A140 | Development | 0.9994 | High Risk | No |
| A157 | Development | 0.4539 | Low Risk | No |
| A158 | Development | 0.9987 | High Risk | No |
| A159 | Development | 0.9999 | High Risk | Yes |
| A160 | Development | 0.9964 | High Risk | Yes |
| A162 | Development | 0.0678 | Low Risk | Yes |
| A156 | Development | 0.0529 | Low Risk | Yes |
| A230 | Development | 0.0571 | Low Risk | No |
| A231 | Development | 0.1473 | Low Risk | No |
| A232 | Development | 0.9999 | High Risk | No |
| A233 | Development | 0.0119 | Low Risk | Yes |
| A234 | Development | 0.9996 | High Risk | Yes |
| A236 | Development | 0.0282 | Low Risk | Yes |
| A239 | Development | 0.0704 | Low Risk | Yes |
| A240 | Development | 0.0364 | Low Risk | Yes |
| A241 | Development | 0.0456 | Low Risk | No |
| A237 | Development | 1.0000 | High Risk | No |
| A238 | Development | 0.9999 | High Risk | Yes |
| A243 | Development | 0.0357 | Low Risk | No |
| A244 | Development | 0.0157 | Low Risk | No |
| A242 | Development | 0.0372 | Low Risk | No |
| A013 | Development | 0.2000 | Low Risk | No |
| A014 | Development | 0.0655 | Low Risk | Yes |
| A235 | Development | 0.8138 | High Risk | Yes |
| A012 | Development | 0.9989 | High Risk | Yes |
| A246 | Development | 1.0000 | High Risk | No |
| A253 | Development | 0.0667 | Low Risk | No |
| A254 | Development | 0.0321 | Low Risk | No |
| A245 | Development | 0.0415 | Low Risk | No |
| A258 | Development | 1.0000 | High Risk | No |
| A247 | Development | 0.0610 | Low Risk | No |
| A256 | Development | 1.0000 | High Risk | No |
| A257 | Development | 0.9999 | High Risk | No |
| A259 | Development | 0.0775 | Low Risk | No |
| A260 | Development | 0.0580 | Low Risk | No |
| A023 | Development | 0.0572 | Low Risk | No |
| A251 | Development | 0.0266 | Low Risk | Yes |
| A250 | Development | 0.9991 | High Risk | No |
| A252 | Development | 0.9996 | High Risk | Yes |
| A255 | Development | 0.9999 | High Risk | Yes |
| A248 | Development | 0.0467 | Low Risk | Yes |
| A163 | Development | 0.9991 | High Risk | Yes |
| A164 | Development | 0.0667 | Low Risk | Yes |
| A165 | Development | 0.9997 | High Risk | Yes |
| A166 | Development | 0.9999 | High Risk | Yes |
| A168 | Development | 0.9999 | High Risk | Yes |
| A006 | Development | 0.0651 | Low Risk | Yes |
| A170 | Development | 0.9733 | High Risk | No |
| A171 | Development | 0.0482 | Low Risk | No |
| A172 | Development | 0.0228 | Low Risk | No |
| A174 | Development | 0.9998 | High Risk | No |
| A173 | Development | 0.0347 | Low Risk | Yes |
| A176 | Development | 0.0338 | Low Risk | No |
| A175 | Development | 0.0452 | Low Risk | No |
| A177 | Development | 0.1485 | Low Risk | No |
| A167 | Development | 0.0799 | Low Risk | Yes |
| A161 | Development | 0.0296 | Low Risk | Yes |
| A169 | Development | 0.0349 | Low Risk | No |
| A180 | Development | 0.1290 | Low Risk | Yes |
| A181 | Development | 0.0276 | Low Risk | No |
| A183 | Development | 0.0429 | Low Risk | No |
| A184 | Development | 0.0329 | Low Risk | No |
| A182 | Development | 0.0264 | Low Risk | No |
| A186 | Development | 0.1366 | Low Risk | No |
| A178 | Development | 0.1284 | Low Risk | No |
| A008 | Development | 0.0196 | Low Risk | Yes |
| A189 | Development | 0.0666 | Low Risk | No |
| A190 | Development | 0.9998 | High Risk | No |
| A191 | Development | 0.9999 | High Risk | No |
| A192 | Development | 0.0339 | Low Risk | No |
| A193 | Development | 0.1784 | Low Risk | Yes |
| A194 | Development | 0.9997 | High Risk | No |
| A185 | Development | 0.0354 | Low Risk | No |
| A187 | Development | 0.9998 | High Risk | No |
| A188 | Development | 0.9996 | High Risk | No |
| A196 | Development | 0.9983 | High Risk | No |
| A195 | Development | 0.0504 | Low Risk | No |
| A199 | Development | 0.0133 | Low Risk | Yes |
| A202 | Development | 0.0216 | Low Risk | No |
| A201 | Development | 0.0326 | Low Risk | No |
| A197 | Development | 0.0142 | Low Risk | No |
| A204 | Development | 0.9993 | High Risk | Yes |
| A205 | Development | 0.0367 | Low Risk | No |
| A206 | Development | 0.0607 | Low Risk | No |
| A021 | Development | 0.9976 | High Risk | No |
| A208 | Development | 1.0000 | High Risk | No |
| A209 | Development | 0.9998 | High Risk | No |
| A210 | Development | 1.0000 | High Risk | No |
| A212 | Development | 0.0602 | Low Risk | No |
| A211 | Development | 0.0432 | Low Risk | No |
| A214 | Development | 0.0361 | Low Risk | No |
| A216 | Development | 0.2100 | Low Risk | Yes |
| A010 | Development | 0.0453 | Low Risk | Yes |
| A207 | Development | 0.2839 | Low Risk | No |
| A213 | Development | 0.0508 | Low Risk | No |
| A219 | Development | 0.0331 | Low Risk | No |
| A215 | Development | 0.0210 | Low Risk | Yes |
| A217 | Development | 1.0000 | High Risk | No |
| A220 | Development | 0.9995 | High Risk | No |
| A011 | Development | 0.0887 | Low Risk | Yes |
| A221 | Development | 0.9994 | High Risk | Yes |
| A222 | Development | 0.0220 | Low Risk | No |
| A218 | Development | 0.0856 | Low Risk | Yes |
| A223 | Development | 0.9986 | High Risk | Yes |
| A224 | Development | 1.0000 | High Risk | Yes |
| A226 | Development | 0.0347 | Low Risk | Yes |
| A225 | Development | 0.0343 | Low Risk | Yes |
| A227 | Development | 0.0339 | Low Risk | No |
| A228 | Development | 0.9997 | High Risk | No |
| A229 | Development | 0.4415 | Low Risk | No |
| A261 | Development | 0.0445 | Low Risk | No |
| A262 | Development | 0.0313 | Low Risk | Yes |
| A263 | Development | 0.1385 | Low Risk | No |
| A331 | Development | 0.0391 | Low Risk | No |
| A332 | Development | 0.9982 | High Risk | No |
| A324 | Development | 0.9999 | High Risk | No |
| A333 | Development | 0.0297 | Low Risk | No |
| A334 | Development | 0.0221 | Low Risk | No |
| A335 | Development | 0.0783 | Low Risk | No |
| C073 | Development | 0.0208 | Low Risk | No |
| B086 | Development | 0.0242 | Low Risk | No |
| C074 | Development | 0.6907 | High Risk | No |
| B087 | Development | 0.0886 | Low Risk | No |
| A329 | Development | 0.0671 | Low Risk | No |
| C072 | Development | 0.0109 | Low Risk | No |
| A265 | Development | 0.0594 | Low Risk | Yes |
| A266 | Development | 0.0243 | Low Risk | Yes |
| A267 | Development | 0.1873 | Low Risk | No |
| A015 | Development | 0.0180 | Low Risk | Yes |
| A016 | Development | 0.0366 | Low Risk | Yes |
| A269 | Development | 0.9996 | High Risk | No |
| A276 | Development | 0.9995 | High Risk | Yes |
| A277 | Development | 0.0161 | Low Risk | Yes |
| A278 | Development | 1.0000 | High Risk | Yes |
| A275 | Development | 0.9997 | High Risk | No |
| A264 | Development | 0.9930 | High Risk | No |
| A279 | Development | 0.0167 | Low Risk | No |
| A017 | Development | 0.0681 | Low Risk | Yes |
| A280 | Development | 0.1405 | Low Risk | Yes |
| A281 | Development | 0.0217 | Low Risk | Yes |
| A282 | Development | 0.0107 | Low Risk | Yes |
| A283 | Development | 0.0145 | Low Risk | Yes |
| A270 | Development | 0.9999 | High Risk | No |
| A271 | Development | 0.0322 | Low Risk | No |
| A272 | Development | 0.9999 | High Risk | No |
| A273 | Development | 0.8414 | High Risk | No |
| A274 | Development | 0.0178 | Low Risk | No |
| A285 | Development | 1.0000 | High Risk | Yes |
| A286 | Development | 0.9825 | High Risk | Yes |
| A287 | Development | 0.0436 | Low Risk | Yes |
| A284 | Development | 0.0353 | Low Risk | Yes |
| A294 | Development | 0.0407 | Low Risk | Yes |
| A295 | Development | 0.0199 | Low Risk | Yes |
| A293 | Development | 0.0417 | Low Risk | Yes |
| A297 | Development | 0.0424 | Low Risk | Yes |
| A296 | Development | 0.9960 | High Risk | Yes |
| A289 | Development | 0.4113 | Low Risk | No |
| A290 | Development | 0.0208 | Low Risk | Yes |
| A298 | Development | 0.9995 | High Risk | Yes |
| A300 | Development | 0.1075 | Low Risk | Yes |
| A301 | Development | 0.0287 | Low Risk | Yes |
| A291 | Development | 0.6541 | High Risk | Yes |
| A299 | Development | 0.1238 | Low Risk | Yes |
| A292 | Development | 0.1395 | Low Risk | No |
| A304 | Development | 0.0084 | Low Risk | Yes |
| A303 | Development | 0.9999 | High Risk | Yes |
| A307 | Development | 0.0609 | Low Risk | No |
| A308 | Development | 0.0304 | Low Risk | Yes |
| A302 | Development | 0.0200 | Low Risk | Yes |
| A314 | Development | 0.0809 | Low Risk | No |
| A288 | Development | 0.9997 | High Risk | No |
| A313 | Development | 0.0294 | Low Risk | No |
| A315 | Development | 0.0544 | Low Risk | No |
| A312 | Development | 0.9998 | High Risk | Yes |
| A018 | Development | 0.7554 | High Risk | No |
| A318 | Development | 0.1923 | Low Risk | Yes |
| A316 | Development | 0.9999 | High Risk | Yes |
| A320 | Development | 0.0336 | Low Risk | Yes |
| A317 | Development | 0.9982 | High Risk | No |
| A319 | Development | 0.9945 | High Risk | Yes |
| A020 | Development | 0.9997 | High Risk | Yes |
| A309 | Development | 0.7788 | High Risk | Yes |
| A311 | Development | 0.7510 | High Risk | Yes |
| A322 | Development | 0.1681 | Low Risk | Yes |
| A019 | Development | 1.0000 | High Risk | Yes |
| A310 | Development | 0.9998 | High Risk | Yes |
| A328 | Development | 0.9995 | High Risk | Yes |
| A330 | Development | 0.9999 | High Risk | No |
| A326 | Development | 0.9999 | High Risk | Yes |
| A323 | Development | 1.0000 | High Risk | Yes |
| A325 | Development | 1.0000 | High Risk | Yes |
| A321 | Development | 0.4079 | Low Risk | Yes |
| A327 | Development | 0.0862 | Low Risk | Yes |
| C075 | Development | 0.9996 | High Risk | No |
| B090 | Development | 0.8387 | High Risk | No |
| C076 | Development | 0.9999 | High Risk | No |
| B091 | Development | 0.9999 | High Risk | No |
| B088 | Development | 0.0468 | Low Risk | No |
| C158 | Development | 0.0616 | Low Risk | No |
| C160 | Development | 0.0605 | Low Risk | No |
| B108 | Development | 0.1093 | Low Risk | No |
| C162 | Development | 0.1007 | Low Risk | No |
| C163 | Development | 0.0530 | Low Risk | No |
| C169 | Development | 0.9999 | High Risk | No |
| C167 | Development | 0.1615 | Low Risk | No |
| B110 | Development | 0.0207 | Low Risk | No |
| B111 | Development | 0.9998 | High Risk | No |
| B112 | Development | 0.0261 | Low Risk | No |
| C121 | Development | 0.9994 | High Risk | No |
| A339 | Development | 0.9999 | High Risk | No |
| C171 | Development | 0.0251 | Low Risk | No |
| C170 | Development | 0.0514 | Low Risk | No |
| C161 | Development | 0.0219 | Low Risk | No |
| A340 | Development | 0.9997 | High Risk | No |
| C173 | Development | 0.9999 | High Risk | No |
| C174 | Development | 0.0529 | Low Risk | No |
| B106 | Development | 0.0363 | Low Risk | No |
| C155 | Development | 0.0446 | Low Risk | No |
| C157 | Development | 0.0794 | Low Risk | No |
| A338 | Development | 0.9999 | High Risk | Yes |
| A349 | Development | 0.9998 | High Risk | No |
| A341 | Development | 0.1177 | Low Risk | No |
| A342 | Development | 0.9998 | High Risk | Yes |
| C178 | Development | 0.8561 | High Risk | No |
| B114 | Development | 0.9999 | High Risk | No |
| A350 | Development | 1.0000 | High Risk | No |
| A352 | Development | 0.9998 | High Risk | Yes |
| A347 | Development | 0.0578 | Low Risk | No |
| A351 | Development | 1.0000 | High Risk | Yes |
| A354 | Development | 0.0400 | Low Risk | Yes |
| A355 | Development | 0.0518 | Low Risk | No |
| A356 | Development | 0.0183 | Low Risk | No |
| B117 | Development | 0.9999 | High Risk | No |
| C148 | Development | 0.9986 | High Risk | No |
| A348 | Development | 0.0710 | Low Risk | No |
| C077 | Development | 0.0552 | Low Risk | No |
| C078 | Development | 0.0201 | Low Risk | No |
| B089 | Development | 0.9954 | High Risk | No |
| C082 | Development | 0.0238 | Low Risk | No |
| C085 | Development | 0.9924 | High Risk | No |
| B085 | Development | 0.0315 | Low Risk | No |
| C086 | Development | 0.0428 | Low Risk | No |
| C087 | Development | 0.9995 | High Risk | No |
| C088 | Development | 0.0488 | Low Risk | No |
| C080 | Development | 0.0526 | Low Risk | No |
| B094 | Development | 0.9999 | High Risk | No |
| B093 | Development | 0.7890 | High Risk | No |
| C092 | Development | 0.0874 | Low Risk | No |
| C093 | Development | 0.0563 | Low Risk | No |
| C090 | Development | 0.0273 | Low Risk | No |
| C094 | Development | 0.0376 | Low Risk | No |
| B095 | Development | 0.0443 | Low Risk | No |
| C096 | Development | 0.0438 | Low Risk | No |
| B092 | Development | 0.1590 | Low Risk | No |
| C098 | Development | 0.0372 | Low Risk | No |
| B096 | Development | 0.9993 | High Risk | No |
| C099 | Development | 0.0388 | Low Risk | No |
| C101 | Development | 0.0408 | Low Risk | No |
| C100 | Development | 0.0345 | Low Risk | No |
| C091 | Development | 0.0292 | Low Risk | No |
| C104 | Development | 0.9996 | High Risk | No |
| B098 | Development | 0.0449 | Low Risk | No |
| C103 | Development | 0.0183 | Low Risk | No |
| C107 | Development | 0.9999 | High Risk | No |
| C108 | Development | 0.9998 | High Risk | No |
| C106 | Development | 0.0424 | Low Risk | No |
| C105 | Development | 0.9998 | High Risk | No |
| B100 | Development | 0.0594 | Low Risk | No |
| C112 | Development | 0.0513 | Low Risk | No |
| C111 | Development | 0.0439 | Low Risk | No |
| C109 | Development | 0.9998 | High Risk | No |
| C110 | Development | 0.0799 | Low Risk | No |
| B099 | Development | 0.0262 | Low Risk | No |
| C113 | Development | 0.8127 | High Risk | No |
| C115 | Development | 0.9997 | High Risk | No |
| C117 | Development | 0.9998 | High Risk | No |
| C081 | Development | 0.9999 | High Risk | No |
| C116 | Development | 0.0313 | Low Risk | No |
| C114 | Development | 0.9999 | High Risk | No |
| C120 | Development | 0.0302 | Low Risk | No |
| C123 | Development | 0.9999 | High Risk | No |
| C127 | Development | 0.1023 | Low Risk | No |
| A336 | Development | 0.9999 | High Risk | No |
| C128 | Development | 0.0363 | Low Risk | No |
| C136 | Development | 0.0320 | Low Risk | No |
| A337 | Development | 0.0199 | Low Risk | No |
| A268 | Development | 0.9999 | High Risk | No |
| B102 | Development | 0.0265 | Low Risk | No |
| B101 | Development | 0.0568 | Low Risk | No |
| B103 | Development | 0.9998 | High Risk | No |
| C138 | Development | 0.0181 | Low Risk | No |
| B104 | Development | 0.0617 | Low Risk | No |
| B105 | Development | 0.9993 | High Risk | No |
| C154 | Development | 0.0329 | Low Risk | No |
| C152 | Development | 0.0237 | Low Risk | No |
| C151 | Development | 0.9999 | High Risk | No |
| C156 | Development | 0.9999 | High Risk | No |
| B107 | Development | 0.5289 | High Risk | No |
| C153 | Development | 1.0000 | High Risk | No |
| C140 | Development | 0.9079 | High Risk | No |
| C141 | Development | 0.0623 | Low Risk | No |
| C143 | Development | 0.0540 | Low Risk | No |
| B120 | Validation | 0.9928 | High Risk | No |
| A361 | Validation | 0.9994 | High Risk | No |
| B122 | Validation | 0.0350 | Low Risk | No |
| B124 | Validation | 0.0447 | Low Risk | Yes |
| B123 | Validation | 0.3732 | Low Risk | No |
| A362 | Validation | 0.0126 | Low Risk | No |
| A364 | Validation | 0.5713 | High Risk | No |
| A357 | Validation | 0.1964 | Low Risk | Yes |
| A358 | Validation | 0.4958 | Low Risk | No |
| A360 | Validation | 0.8989 | High Risk | No |
| B118 | Validation | 0.5881 | High Risk | No |
| A359 | Validation | 0.0523 | Low Risk | Yes |
| B113 | Validation | 0.9974 | High Risk | No |
| B119 | Validation | 0.0676 | Low Risk | No |
| A249 | Validation | 0.9962 | High Risk | No |
| C046 | Validation | 0.0803 | Low Risk | No |
| C047 | Validation | 0.9209 | High Risk | No |
| C050 | Validation | 0.0711 | Low Risk | No |
| C048 | Validation | 0.9817 | High Risk | No |
| C049 | Validation | 0.8723 | High Risk | No |
| C043 | Validation | 0.1826 | Low Risk | No |
| C045 | Validation | 0.8562 | High Risk | No |
| C053 | Validation | 0.0318 | Low Risk | No |
| A389 | Validation | 0.2938 | Low Risk | No |
| C054 | Validation | 0.0248 | Low Risk | No |
| C059 | Validation | 0.6686 | High Risk | No |
| C055 | Validation | 0.0679 | Low Risk | No |
| C056 | Validation | 0.7912 | High Risk | No |
| C060 | Validation | 0.0861 | Low Risk | No |
| C051 | Validation | 0.7209 | High Risk | No |
| C052 | Validation | 0.0478 | Low Risk | No |
| C061 | Validation | 0.7232 | High Risk | No |
| C062 | Validation | 0.9953 | High Risk | No |
| C064 | Validation | 0.0583 | Low Risk | No |
| C057 | Validation | 0.0661 | Low Risk | No |
| C347 | Validation | 0.0360 | Low Risk | No |
| C065 | Validation | 0.0355 | Low Risk | No |
| C345 | Validation | 0.1431 | Low Risk | No |
| C351 | Validation | 0.3212 | Low Risk | No |
| C063 | Validation | 0.6984 | High Risk | No |
| A365 | Validation | 0.2726 | Low Risk | No |
| A368 | Validation | 0.0215 | Low Risk | No |
| B001 | Validation | 0.1845 | Low Risk | No |
| B002 | Validation | 0.9856 | High Risk | No |
| A343 | Validation | 0.9982 | High Risk | Yes |
| A367 | Validation | 0.4357 | Low Risk | No |
| A372 | Validation | 0.7820 | High Risk | Yes |
| A373 | Validation | 0.1519 | Low Risk | Yes |
| A371 | Validation | 0.9971 | High Risk | No |
| A370 | Validation | 0.9086 | High Risk | Yes |
| A374 | Validation | 0.1202 | Low Risk | No |
| C159 | Validation | 0.9947 | High Risk | No |
| B121 | Validation | 0.0233 | Low Risk | No |
| A369 | Validation | 0.1115 | Low Risk | No |
| A363 | Validation | 0.9922 | High Risk | No |
| B003 | Validation | 0.9859 | High Risk | No |
| A375 | Validation | 0.1021 | Low Risk | Yes |
| A376 | Validation | 0.9985 | High Risk | No |
| B004 | Validation | 0.1309 | Low Risk | No |
| A366 | Validation | 0.0978 | Low Risk | No |
| A377 | Validation | 0.3357 | Low Risk | Yes |
| A385 | Validation | 0.9338 | High Risk | Yes |
| A384 | Validation | 0.5829 | High Risk | No |
| A381 | Validation | 0.9457 | High Risk | No |
| B007 | Validation | 0.9983 | High Risk | No |
| C119 | Validation | 0.9019 | High Risk | No |
| A383 | Validation | 0.8568 | High Risk | Yes |
| B006 | Validation | 0.1269 | Low Risk | Yes |
| B012 | Validation | 0.0265 | Low Risk | No |
| B008 | Validation | 0.9813 | High Risk | No |
| B115 | Validation | 0.7476 | High Risk | No |
| B005 | Validation | 0.8857 | High Risk | Yes |
| B011 | Validation | 0.8731 | High Risk | Yes |
| B013 | Validation | 0.7493 | High Risk | No |
| B009 | Validation | 0.9667 | High Risk | No |
| B016 | Validation | 0.3905 | Low Risk | No |
| B014 | Validation | 0.3199 | Low Risk | Yes |
| B020 | Validation | 0.0893 | Low Risk | Yes |
| B015 | Validation | 0.6157 | High Risk | No |
| B017 | Validation | 0.1575 | Low Risk | Yes |
| B018 | Validation | 0.9572 | High Risk | Yes |
| B022 | Validation | 0.9941 | High Risk | Yes |
| B023 | Validation | 0.1804 | Low Risk | Yes |
| B021 | Validation | 0.8929 | High Risk | Yes |
| B024 | Validation | 0.9974 | High Risk | Yes |
| A379 | Validation | 0.1637 | Low Risk | No |
| A380 | Validation | 0.2590 | Low Risk | Yes |
| A378 | Validation | 0.8391 | High Risk | No |
| A382 | Validation | 0.0877 | Low Risk | No |
| A305 | Validation | 0.0725 | Low Risk | Yes |
| B029 | Validation | 0.4129 | Low Risk | Yes |
| B032 | Validation | 0.7404 | High Risk | Yes |
| B035 | Validation | 0.9716 | High Risk | Yes |
| B037 | Validation | 0.8772 | High Risk | Yes |
| B038 | Validation | 0.2891 | Low Risk | No |
| B040 | Validation | 0.0573 | Low Risk | Yes |
| B046 | Validation | 0.8984 | High Risk | Yes |
| B047 | Validation | 0.0390 | Low Risk | Yes |
| B025 | Validation | 0.1145 | Low Risk | No |
| B027 | Validation | 0.9340 | High Risk | No |
| B036 | Validation | 0.2595 | Low Risk | Yes |
| B049 | Validation | 0.9327 | High Risk | No |
| B041 | Validation | 0.9718 | High Risk | No |
| B048 | Validation | 0.2528 | Low Risk | Yes |
| B010 | Validation | 0.0349 | Low Risk | Yes |
| B028 | Validation | 0.0157 | Low Risk | No |
| B052 | Validation | 0.9994 | High Risk | No |
| B053 | Validation | 0.1791 | Low Risk | No |
| B055 | Validation | 0.0854 | Low Risk | No |
| B039 | Validation | 0.3811 | Low Risk | Yes |
| B051 | Validation | 0.7595 | High Risk | No |
| B054 | Validation | 0.9995 | High Risk | Yes |
| C236 | Validation | 0.0578 | Low Risk | No |
| B050 | Validation | 0.0956 | Low Risk | Yes |
| B056 | Validation | 0.9945 | High Risk | No |
| B057 | Validation | 0.9166 | High Risk | Yes |
| B058 | Validation | 0.0687 | Low Risk | No |
| B026 | Validation | 0.7345 | High Risk | Yes |
| B030 | Validation | 0.7081 | High Risk | No |
| B033 | Validation | 0.8428 | High Risk | Yes |
| B019 | Validation | 0.3754 | Low Risk | Yes |
| B031 | Validation | 0.4834 | Low Risk | No |
| B034 | Validation | 0.3869 | Low Risk | Yes |
| A353 | Validation | 0.7187 | High Risk | No |
| B061 | Validation | 0.9941 | High Risk | No |
| B062 | Validation | 0.0581 | Low Risk | No |
| B067 | Validation | 0.9153 | High Risk | Yes |
| B071 | Validation | 0.9453 | High Risk | Yes |
| A346 | Validation | 0.9988 | High Risk | Yes |
| B074 | Validation | 0.9912 | High Risk | No |
| B076 | Validation | 0.7427 | High Risk | No |
| B073 | Validation | 0.3202 | Low Risk | Yes |
| B077 | Validation | 0.9970 | High Risk | No |
| B079 | Validation | 0.7598 | High Risk | No |
| B075 | Validation | 0.1514 | Low Risk | Yes |
| B078 | Validation | 0.3543 | Low Risk | No |
| B081 | Validation | 0.1446 | Low Risk | Yes |
| C247 | Validation | 0.9918 | High Risk | No |
| B127 | Validation | 0.4910 | Low Risk | Yes |
| B080 | Validation | 0.1514 | Low Risk | Yes |
| B082 | Validation | 0.6832 | High Risk | Yes |
| B128 | Validation | 0.7048 | High Risk | Yes |
| B044 | Validation | 0.9919 | High Risk | Yes |
| B125 | Validation | 0.9955 | High Risk | Yes |
| B129 | Validation | 0.9980 | High Risk | Yes |
| C256 | Validation | 0.0175 | Low Risk | Yes |
| B042 | Validation | 0.4463 | Low Risk | No |
| B045 | Validation | 0.9988 | High Risk | Yes |
| B130 | Validation | 0.1245 | Low Risk | Yes |
| B133 | Validation | 0.6214 | High Risk | Yes |
| C253 | Validation | 0.1608 | Low Risk | No |
| B060 | Validation | 0.5130 | High Risk | No |
| A345 | Validation | 0.0256 | Low Risk | Yes |
| B064 | Validation | 0.1776 | Low Risk | No |
| B059 | Validation | 0.7944 | High Risk | Yes |
| B063 | Validation | 0.5930 | High Risk | Yes |
| B065 | Validation | 0.3984 | Low Risk | Yes |
| B066 | Validation | 0.0269 | Low Risk | Yes |
| B068 | Validation | 0.9852 | High Risk | No |
| B070 | Validation | 0.9996 | High Risk | No |
| B072 | Validation | 0.0891 | Low Risk | Yes |
| B069 | Validation | 0.8449 | High Risk | No |
| C242 | Validation | 0.0570 | Low Risk | No |
| B136 | Validation | 0.9998 | High Risk | Yes |
| B137 | Validation | 0.9077 | High Risk | Yes |
| B140 | Validation | 0.0605 | Low Risk | Yes |
| B134 | Validation | 0.0191 | Low Risk | No |
| B144 | Validation | 0.9972 | High Risk | No |
| B149 | Validation | 0.9582 | High Risk | Yes |
| B152 | Validation | 0.0285 | Low Risk | Yes |
| B145 | Validation | 0.0619 | Low Risk | No |
| B147 | Validation | 0.0188 | Low Risk | Yes |
| B146 | Validation | 0.3938 | Low Risk | Yes |
| B148 | Validation | 0.0903 | Low Risk | No |
| B151 | Validation | 0.3558 | Low Risk | Yes |
| B150 | Validation | 0.3464 | Low Risk | Yes |
| B153 | Validation | 0.9364 | High Risk | Yes |
| B156 | Validation | 0.5042 | High Risk | Yes |
| A386 | Validation | 0.9811 | High Risk | Yes |
| B154 | Validation | 0.4754 | Low Risk | No |
| C263 | Validation | 0.3667 | Low Risk | No |
| B155 | Validation | 0.1070 | Low Risk | Yes |
| B083 | Validation | 0.7926 | High Risk | No |
| C254 | Validation | 0.0377 | Low Risk | Yes |
| B135 | Validation | 0.2485 | Low Risk | Yes |
| B138 | Validation | 0.0175 | Low Risk | No |
| B141 | Validation | 0.1947 | Low Risk | No |
| B043 | Validation | 0.2748 | Low Risk | Yes |
| B143 | Validation | 0.5713 | High Risk | Yes |
| B139 | Validation | 0.9569 | High Risk | Yes |
| B142 | Validation | 0.8166 | High Risk | Yes |
| B157 | Validation | 0.9930 | High Risk | No |
| B158 | Validation | 0.6104 | High Risk | Yes |
| B159 | Validation | 0.0274 | Low Risk | No |
| B162 | Validation | 0.4925 | Low Risk | No |
| B167 | Validation | 0.9635 | High Risk | No |
| B170 | Validation | 0.2312 | Low Risk | No |
| B169 | Validation | 0.0487 | Low Risk | Yes |
| B174 | Validation | 0.0876 | Low Risk | No |
| B171 | Validation | 0.2614 | Low Risk | No |
| B172 | Validation | 0.3289 | Low Risk | No |
| B175 | Validation | 0.8723 | High Risk | No |
| B165 | Validation | 0.0282 | Low Risk | Yes |
| B176 | Validation | 0.9976 | High Risk | No |
| B173 | Validation | 0.8251 | High Risk | No |
| C068 | Validation | 0.7688 | High Risk | No |
| C069 | Validation | 0.5363 | High Risk | No |
| C066 | Validation | 0.0810 | Low Risk | Yes |
| C071 | Validation | 0.2735 | Low Risk | No |
| C002 | Validation | 0.9084 | High Risk | No |
| B177 | Validation | 0.0408 | Low Risk | Yes |
| C067 | Validation | 0.5791 | High Risk | No |
| C070 | Validation | 0.9167 | High Risk | No |
| B160 | Validation | 0.1884 | Low Risk | Yes |
| B164 | Validation | 0.0319 | Low Risk | No |
| C006 | Validation | 0.2106 | Low Risk | No |
| C003 | Validation | 0.9951 | High Risk | No |
| B166 | Validation | 0.0403 | Low Risk | No |
| B168 | Validation | 0.8971 | High Risk | Yes |
| B163 | Validation | 0.9966 | High Risk | No |
| C010 | Validation | 0.9447 | High Risk | No |
| C011 | Validation | 0.0397 | Low Risk | No |
| C012 | Validation | 0.0472 | Low Risk | No |
| C015 | Validation | 0.3007 | Low Risk | No |
| C016 | Validation | 0.9278 | High Risk | No |
| C014 | Validation | 0.5624 | High Risk | No |
| C017 | Validation | 0.1205 | Low Risk | No |
| C018 | Validation | 0.0303 | Low Risk | No |
| C019 | Validation | 0.0686 | Low Risk | No |
| C020 | Validation | 0.1066 | Low Risk | No |
| C022 | Validation | 0.9996 | High Risk | No |
| C024 | Validation | 0.2787 | Low Risk | No |
| C302 | Validation | 0.5432 | High Risk | No |
| C025 | Validation | 0.9803 | High Risk | No |
| C032 | Validation | 0.4893 | Low Risk | No |
| C028 | Validation | 0.7043 | High Risk | No |
| C026 | Validation | 0.1114 | Low Risk | No |
| C035 | Validation | 0.2344 | Low Risk | No |
| C021 | Validation | 0.1242 | Low Risk | No |
| C023 | Validation | 0.9952 | High Risk | No |
| C027 | Validation | 0.1375 | Low Risk | No |
| C037 | Validation | 0.9977 | High Risk | No |
| C030 | Validation | 0.8386 | High Risk | No |
| C004 | Validation | 0.3900 | Low Risk | No |
| C008 | Validation | 0.1834 | Low Risk | No |
| C013 | Validation | 0.9415 | High Risk | No |
| C005 | Validation | 0.7151 | High Risk | No |
| C007 | Validation | 0.9896 | High Risk | No |
| C009 | Validation | 0.4655 | Low Risk | No |
| C029 | Validation | 0.0361 | Low Risk | No |
| C031 | Validation | 0.9574 | High Risk | No |
| C039 | Validation | 0.9546 | High Risk | No |
| C038 | Validation | 0.2350 | Low Risk | No |
| C041 | Validation | 0.9355 | High Risk | No |
| C036 | Validation | 0.5410 | High Risk | No |
| C040 | Validation | 0.0387 | Low Risk | No |
| C042 | Validation | 0.3232 | Low Risk | No |
| C307 | Validation | 0.2258 | Low Risk | No |
| C033 | Validation | 0.9769 | High Risk | No |
| C044 | Validation | 0.0861 | Low Risk | No |
| B131 | Validation | 0.4148 | Low Risk | No |
| C001 | Validation | 0.8941 | High Risk | No |
| C034 | Validation | 0.0610 | Low Risk | No |
| C363 | Validation | 0.6943 | High Risk | Yes |
| C357 | Validation | 0.9028 | High Risk | No |
| B206 | Validation | 0.4480 | Low Risk | No |
| B207 | Validation | 0.9784 | High Risk | No |
| C631 | Validation | 0.2967 | Low Risk | Yes |
| B203 | Validation | 0.0588 | Low Risk | No |
| B209 | Validation | 0.3127 | Low Risk | No |
| B208 | Validation | 0.5090 | High Risk | No |
| B210 | Validation | 0.9966 | High Risk | No |
| B211 | Validation | 0.9591 | High Risk | No |
| B212 | Validation | 0.4641 | Low Risk | No |
| B213 | Validation | 0.1401 | Low Risk | No |
| B215 | Validation | 0.5955 | High Risk | No |
| B217 | Validation | 0.9053 | High Risk | No |
| B220 | Validation | 0.7923 | High Risk | No |
| B221 | Validation | 0.6898 | High Risk | No |
| B222 | Validation | 0.3758 | Low Risk | No |
| B219 | Validation | 0.1259 | Low Risk | No |
| B223 | Validation | 0.1179 | Low Risk | No |
| B216 | Validation | 0.6620 | High Risk | No |
| C672 | Validation | 0.0260 | Low Risk | Yes |
| B218 | Validation | 0.9983 | High Risk | No |
| B214 | Validation | 0.8199 | High Risk | No |
| C694 | Validation | 0.1127 | Low Risk | Yes |
| C058 | Validation | 0.2179 | Low Risk | No |
| C377 | Validation | 0.0687 | Low Risk | No |
| A390 | Validation | 0.9993 | High Risk | No |
| C374 | Validation | 0.0254 | Low Risk | No |
| C381 | Validation | 0.9445 | High Risk | No |
| C385 | Validation | 0.1770 | Low Risk | No |
| C391 | Validation | 0.1796 | Low Risk | No |
| C392 | Validation | 0.0290 | Low Risk | No |
| C396 | Validation | 0.0958 | Low Risk | No |
| C400 | Validation | 0.1955 | Low Risk | No |
| C409 | Validation | 0.8060 | High Risk | No |
| C418 | Validation | 0.0530 | Low Risk | No |
| C393 | Validation | 0.9965 | High Risk | No |
| C433 | Validation | 0.0650 | Low Risk | No |
| C436 | Validation | 0.6070 | High Risk | No |
| C444 | Validation | 0.1839 | Low Risk | No |
| C434 | Validation | 0.1265 | Low Risk | No |
| C456 | Validation | 0.3545 | Low Risk | No |
| C461 | Validation | 0.1328 | Low Risk | No |
| C460 | Validation | 0.1453 | Low Risk | No |
| C463 | Validation | 0.5041 | High Risk | No |
| C467 | Validation | 0.0348 | Low Risk | No |
| C424 | Validation | 0.3093 | Low Risk | No |
| C428 | Validation | 0.8879 | High Risk | Yes |
| C499 | Validation | 0.0831 | Low Risk | No |
| C495 | Validation | 0.1938 | Low Risk | No |
| C498 | Validation | 0.3303 | Low Risk | No |
| C503 | Validation | 0.0388 | Low Risk | No |
| C511 | Validation | 0.9819 | High Risk | No |
| C501 | Validation | 0.9949 | High Risk | No |
| C475 | Validation | 0.4351 | Low Risk | No |
| C488 | Validation | 0.0987 | Low Risk | No |
| C520 | Validation | 0.1097 | Low Risk | No |
| C507 | Validation | 0.9977 | High Risk | No |
| C509 | Validation | 0.1016 | Low Risk | No |
| C504 | Validation | 0.1222 | Low Risk | No |
| C515 | Validation | 0.7645 | High Risk | No |
| C526 | Validation | 0.1797 | Low Risk | No |
| C470 | Validation | 0.9919 | High Risk | No |
| C479 | Validation | 0.0285 | Low Risk | Yes |
| C474 | Validation | 0.5704 | High Risk | No |
| C522 | Validation | 0.0553 | Low Risk | No |
| C532 | Validation | 0.3156 | Low Risk | No |
| C528 | Validation | 0.6760 | High Risk | No |
| C549 | Validation | 0.2065 | Low Risk | No |
| C556 | Validation | 0.9051 | High Risk | No |
| B178 | Validation | 0.4240 | Low Risk | No |
| C513 | Validation | 0.8760 | High Risk | No |
| B182 | Validation | 0.5688 | High Risk | No |
| B184 | Validation | 0.9742 | High Risk | No |
| C530 | Validation | 0.5172 | High Risk | No |
| C540 | Validation | 0.8357 | High Risk | No |
| C543 | Validation | 0.2696 | Low Risk | No |
| B183 | Validation | 0.0608 | Low Risk | No |
| B185 | Validation | 0.0891 | Low Risk | No |
| B186 | Validation | 0.7309 | High Risk | No |
| B187 | Validation | 0.7044 | High Risk | No |
| B188 | Validation | 0.4949 | Low Risk | No |
| B189 | Validation | 0.4421 | Low Risk | No |
| B193 | Validation | 0.0740 | Low Risk | No |
| B192 | Validation | 0.4915 | Low Risk | No |
| B194 | Validation | 0.9542 | High Risk | No |
| B179 | Validation | 0.9996 | High Risk | No |
| B195 | Validation | 0.9872 | High Risk | No |
| B196 | Validation | 0.9893 | High Risk | No |
| B204 | Validation | 0.0442 | Low Risk | No |
| C118 | Validation | 0.3041 | Low Risk | No |
| B191 | Validation | 0.9804 | High Risk | No |
| B200 | Validation | 0.9107 | High Risk | No |
| B201 | Validation | 0.4933 | Low Risk | No |
| B202 | Validation | 0.0529 | Low Risk | No |
| B197 | Validation | 0.9908 | High Risk | No |
| C448 | Validation | 0.8102 | High Risk | No |
| B199 | Validation | 0.8145 | High Risk | No |
| B116 | Validation | 0.0275 | Low Risk | No |
| C833 | Validation | 0.9886 | High Risk | No |
| C757 | Validation | 0.0861 | Low Risk | No |
| C866 | Validation | 0.9973 | High Risk | Yes |
| C872 | Validation | 0.5868 | High Risk | Yes |
| B126 | Validation | 0.0502 | Low Risk | No |
| C795 | Validation | 0.1725 | Low Risk | Yes |
| D405 | Validation | 0.8758 | High Risk | Yes |
| D406 | Validation | 0.0665 | Low Risk | Yes |
| D408 | Validation | 0.8909 | High Risk | Yes |
| D407 | Validation | 0.6425 | High Risk | Yes |
| C960 | Validation | 0.3014 | Low Risk | Yes |
| C962 | Validation | 0.9921 | High Risk | Yes |
| C963 | Validation | 0.2435 | Low Risk | Yes |
| C964 | Validation | 0.1290 | Low Risk | Yes |
| C965 | Validation | 0.9488 | High Risk | Yes |
| C966 | Validation | 0.3589 | Low Risk | No |
| B132 | Validation | 0.8929 | High Risk | No |
| D413 | Validation | 0.6411 | High Risk | Yes |
| D411 | Validation | 0.7786 | High Risk | Yes |
| D412 | Validation | 0.9124 | High Risk | Yes |