

**Appendix 6.** K-M cumulative incidence of HCC in low/intermediate/high risk groups according to each risk prediction model cut-off values using different on treatment values

**Supplementary Table 6-1.** K-M cumulative incidence of HCC in low/intermediate/high risk groups according to each risk prediction model cut-off values using on treatment values at year 2.5

| Model  | Category     | N of patients (n of HCC) | Risk                | P       |
|--|--------------|--------------------------|---------------------|---------|
| Untreated models with the cirrhosis variable           |              |                          |                     |         |
| GAG-HCC  | Low          | 547 (23)                 | 4.61 (2.74, 6.44)   | 0.0675  |
|  | High         | 113 (9)                  | 8.90 (3.07,14.38)   |         |
| Treated or mixed models without the cirrhosis variable |              |                          |                     |         |
| LSM-HCC  | Low          | 433 (9)                  | 2.32 (0.80, 3.80)   | <0.0001 |
|  | High         | 227 (23)                 | 11.20 (6.71, 15.47) |         |
| SAGE-B   | Low          | 341 (7)                  | 2.29 (0.59, 3.96)   | 0.0022  |
|  | Intermediate | 242 (18)                 | 8.40 (4.57, 12.08)  |         |
|  | High         | 77 (7)                   | 9.09 (2.44, 15.29)  |         |
| mPAGE-B  | Low          | 186 (1)                  | 0.57 (0.00, 1.68)   | 0.0048  |
|  | Intermediate | 344 (21)                 | 6.63 (3.83, 9.35)   |         |
|  | High         | 130 (10)                 | 8.50 (3.27, 13.45)  |         |
| PAGE-B   | Low          | 116 (0)                  | 0.00 (0.00, 0.00)   | 0.0056  |
|  | Intermediate | 364 (17)                 | 5.11 (2.70, 7.46)   |         |
|  | High         | 180 (15)                 | 9.01 (4.52, 13.30)  |         |
| aMAP   | Low          | 86 (0)                   | 0.00 (0.00, 0.00)   | 0.0121  |
|  | Intermediate | 273 (10)                 | 4.15 (1.58, 6.66)   |         |
|  | High         | 301 (22)                 | 7.85 (4.63, 10.97)  |         |
| Treated or mixed models with the cirrhosis variable    |              |                          |                     |         |
| AASL-HCC   | Low          | 186 (3)                  | 1.78 (0.00, 3.75)   | 0.0069  |
|  | Intermediate | 386 (20)                 | 5.67 (3.21, 8.06)   |         |
|  | High         | 88 (9)                   | 11.21 (3.94, 17.93) |         |
| CAMD   | Low          | 257 (5)                  | 2.11 (0.26, 3.92)   | 0.0035  |
|  | Intermediate | 264 (14)                 | 5.87 (2.82, 8.83)   |         |
|  | High         | 139 (13)                 | 10.25 (4.74, 15.43) |         |
| REAL-B   | Low          | 223 (3)                  | 1.50 (0.00, 3.18)   | <0.0001 |
|  | Intermediate | 385 (20)                 | 5.62 (3.18, 8.00)   |         |
|  | High         | 52 (9)                   | 20.17 (7.05, 31.45) |         |
| CU-HCC   | Low          | 332 (7)                  | 2.30 (0.60, 3.98)   | 0.0022  |
|  | Intermediate | 257 (18)                 | 7.97 (4.32, 11.48)  |         |
|  | High         | 71 (7)                   | 10.14 (2.72, 17.00) |         |
| RWS-HCC  | Low          | 399 (9)                  | 2.47 (0.86, 4.06)   | 0.0001  |
|  | High         | 261 (23)                 | 9.80 (5.86, 13.58)  |         |
| CAGE-B   | Low          | 257 (4)                  | 1.75 (0.03, 3.45)   | 0.0085  |
|  | Intermediate | 303 (21)                 | 7.71 (4.45, 10.85)  |         |
|  | High         | 100 (7)                  | 7.14 (1.90, 12.10)  |         |

**Supplementary Table 6-2.** K-M cumulative incidence of HCC in low/intermediate/high risk groups according to each risk prediction model cut-off values using on treatment values at year 3

| Model  | Category     | N of patients (n of HCC) | Risk                | P      |
|--|--------------|--------------------------|---------------------|--------|
| Untreated models with the cirrhosis variable           |              |                          |                     |        |
| GAG-HCC  | Low          | 528 (19)                 | 3.78 (2.10, 5.44)   | 0.0335 |
|  | High         | 112 (9)                  | 8.87 (3.12, 14.27)  |        |
| Treated or mixed models without the cirrhosis variable |              |                          |                     |        |
| LSM-HCC  | Low          | 448 (12)                 | 2.85 (1.25, 4.44)   | 0.0011 |
|  | High         | 192 (16)                 | 8.88 (4.61, 12.97)  |        |
| SAGE-B   | Low          | 339 (8)                  | 2.48 (0.77, 4.16)   | 0.0106 |
|  | Intermediate | 240 (14)                 | 6.38 (3.08, 9.57)   |        |
|  | High         | 61 (6)                   | 9.93 (2.06, 17.17)  |        |
| mPAGE-B  | Low          | 168 (1)                  | 0.62 (0.00, 1.83)   | 0.0103 |
|  | Intermediate | 341 (17)                 | 5.28 (2.80, 7.69)   |        |
|  | High         | 131 (10)                 | 8.07 (3.13, 12.76)  |        |
| PAGE-B   | Low          | 106 (0)                  | 0.00 (0.00, 0.00)   | 0.0225 |
|  | Intermediate | 365 (16)                 | 4.66 (2.40, 6.88)   |        |
|  | High         | 169 (12)                 | 7.46 (3.30, 11.43)  |        |
| aMAP   | Low          | 82 (0)                   | 0.00 (0.00, 0.00)   | 0.0245 |
|  | Intermediate | 268 (9)                  | 3.61 (1.26, 5.91)   |        |
|  | High         | 290 (19)                 | 6.86 (3.83, 9.80)   |        |
| Treated or mixed models with the cirrhosis variable    |              |                          |                     |        |
| AASL-HCC   | Low          | 158 (1)                  | 0.66 (0.00, 1.93)   | 0.0090 |
|  | Intermediate | 388 (19)                 | 5.22 (2.90, 7.48)   |        |
|  | High         | 94 (8)                   | 9.02 (2.84, 14.81)  |        |
| CAMD-HCC   | Low          | 242 (4)                  | 1.72 (0.03, 3.38)   | 0.0140 |
|  | Intermediate | 255 (13)                 | 5.43 (2.51, 8.26)   |        |
|  | High         | 143 (11)                 | 8.21 (3.42, 12.77)  |        |
| REAL-B   | Low          | 202 (3)                  | 1.56 (0.00, 3.30)   | 0.0004 |
|  | Intermediate | 387 (18)                 | 4.92 (2.67, 7.12)   |        |
|  | High         | 51 (7)                   | 14.94 (4.03, 24.60) |        |
| CU-HCC   | Low          | 320 (7)                  | 2.29 (0.60, 3.95)   | 0.0110 |
|  | Intermediate | 254 (15)                 | 6.34 (3.17, 9.41)   |        |
|  | High         | 66 (6)                   | 9.83 (2.01, 17.03)  |        |
| RWS-HCC  | Low          | 394 (8)                  | 2.11 (0.65, 3.54)   | 0.0002 |
|  | High         | 246 (20)                 | 8.79 (5.02, 12.41)  |        |
| CAGE-B   | Low          | 244 (5)                  | 2.15 (0.27, 3.99)   | 0.0359 |
|  | Intermediate | 294 (15)                 | 5.49 (2.74, 8.16)   |        |
|  | High         | 102 (8)                  | 8.29 (2.60, 13.66)  |        |

**Supplementary Table 6-3.** K-M cumulative incidence of HCC in low/intermediate/high risk groups according to each risk prediction model cut-off values using on treatment values at year 3.5

| Model  | Category     | N of patients (n of HCC) | Risk                | P       |
|--|--------------|--------------------------|---------------------|---------|
| Untreated models with the cirrhosis variable           |              |                          |                     |         |
| GAG-HCC  | Low          | 513 (20)                 | 5.45 (2.62, 8.19)   | 0.2403  |
|  | High         | 109 (7)                  | 10.25 (0.13, 19.35) |         |
| Treated or mixed models without the cirrhosis variable |              |                          |                     |         |
| LSM-HCC  | Low          | 443 (15)                 | 4.58 (1.81, 7.27)   | 0.0580  |
|  | High         | 179 (12)                 | 10.86 (2.90, 18.18) |         |
| SAGE-B   | Low          | 330 (10)                 | 4.61 (1.07, 8.01)   | 0.1323  |
|  | Intermediate | 230 (15)                 | 9.51 (3.54, 15.10)  |         |
|  | High         | 62 (2)                   | 3.25 (0.00, 7.59)   |         |
| mPAGE-B  | Low          | 161 (1)                  | 0.63 (0.00, 1.86)   | 0.0258  |
|  | Intermediate | 339 (18)                 | 7.28 (3.26, 11.13)  |         |
|  | High         | 122 (8)                  | 10.94 (0.99, 19.88) |         |
| PAGE-B   | Low          | 107 (0)                  | 0.00 (0.00, 0.00)   | 0.0304  |
|  | Intermediate | 358 (16)                 | 5.63 (2.39, 8.76)   |         |
|  | High         | 157 (11)                 | 11.50 (3.17, 19.10) |         |
| aMAP   | Low          | 82 (0)                   | 0.00 (0.00, 0.00)   | 0.1193  |
|  | Intermediate | 262 (12)                 | 4.89 (2.15, 7.55)   |         |
|  | High         | 278 (15)                 | 8.89 (3.46, 14.01)  |         |
| Treated or mixed models with the cirrhosis variable    |              |                          |                     |         |
| AASL-HCC   | Low          | 154 (0)                  | 0.00 (0.00, 0.00)   | 0.0100  |
|  | Intermediate | 380 (21)                 | 7.62 (3.78, 11.30)  |         |
|  | High         | 88 (6)                   | 10.85 (0.00, 20.82) |         |
| CAMD   | Low          | 234 (2)                  | 0.88 (0.00, 2.08)   | 0.0044  |
|  | Intermediate | 258 (16)                 | 8.95 (3.77, 13.85)  |         |
|  | High         | 130 (9)                  | 10.30 (1.57, 18.25) |         |
| REAL-B   | Low          | 202 (2)                  | 1.02 (0.00, 2.42)   | 0.0080  |
|  | Intermediate | 380 (21)                 | 8.43 (4.04, 12.62)  |         |
|  | High         | 40 (4)                   | 10.21 (0.20, 19.21) |         |
| CU-HCC   | Low          | 314 (3)                  | 0.98 (0.00, 2.09)   | 0.0002  |
|  | Intermediate | 244 (20)                 | 13.05 (5.97, 19.59) |         |
|  | High         | 64 (4)                   | 6.45 (0.12, 12.39)  |         |
| RWS-HCC  | Low          | 383 (6)                  | 1.68 (0.33, 3.00)   | <0.0001 |
|  | High         | 239 (21)                 | 13.57 (6.38, 20.20) |         |
| CAGE-B   | Low          | 238 (5)                  | 3.69 (0.00, 7.76)   | 0.0727  |
|  | Intermediate | 287 (18)                 | 9.10 (4.01, 13.92)  |         |
|  | High         | 97 (4)                   | 4.28 (0.08, 8.29)   |         |

**Supplementary Table 6-4.** K-M cumulative incidence of HCC in low/intermediate/high risk groups according to each risk prediction model cut-off values using on treatment values at year 4

| Model  | Category     | N of patients (n of HCC) | Risk               | P       |
|--|--------------|--------------------------|--------------------|---------|
| Untreated models with the cirrhosis variable           |              |                          |                    |         |
| GAG-HCC  | Low          | 480 (13)                 | 2.89 (1.33, 4.43)  | 0.2090  |
|  | High         | 123 (6)                  | 5.33 (1.08, 9.41)  |         |
| Treated or mixed models without the cirrhosis variable |              |                          |                    |         |
| LSM-HCC  | Low          | 423 (10)                 | 2.51 (0.96, 4.04)  | 0.0794  |
|  | High         | 180 (9)                  | 5.46 (1.91, 8.87)  |         |
| SAGE-B   | Low          | 302 (5)                  | 1.76 (0.22, 3.28)  | 0.0787  |
|  | Intermediate | 238 (12)                 | 5.44 (2.39, 8.39)  |         |
|  | High         | 63 (2)                   | 3.41 (0.00, 7.96)  |         |
| mPAGE-B  | Low          | 145 (0)                  | 0.00 (0.00, 0.00)  | 0.0481  |
|  | Intermediate | 318 (13)                 | 4.40 (2.03, 6.71)  |         |
|  | High         | 140 (6)                  | 4.51 (0.91, 7.97)  |         |
| PAGE-B   | Low          | 97 (1)                   | 1.19 (0.00, 3.48)  | 0.1180  |
|  | Intermediate | 340 (9)                  | 2.77 (0.97, 4.55)  |         |
|  | High         | 166 (9)                  | 5.81 (2.04, 9.43)  |         |
| aMAP   | Low          | 70 (0)                   | 0.00 (0.00, 0.00)  | 0.0603  |
|  | Intermediate | 272 (6)                  | 2.34 (0.47, 4.18)  |         |
|  | High         | 261 (13)                 | 5.29 (2.44, 8.05)  |         |
| Treated or mixed models with the cirrhosis variable    |              |                          |                    |         |
| AASL-HCC   | Low          | 144 (0)                  | 0.00 (0.00, 0.00)  | 0.0470  |
|  | Intermediate | 353 (14)                 | 4.24 (2.04, 6.39)  |         |
|  | High         | 106 (5)                  | 5.00 (0.62, 9.19)  |         |
| CAMD   | Low          | 231 (1)                  | 0.44 (0.00, 1.29)  | 0.0112  |
|  | Intermediate | 220 (11)                 | 5.37 (2.22, 8.41)  |         |
|  | High         | 152 (7)                  | 4.95 (1.30, 8.47)  |         |
| REAL-B   | Low          | 197 (1)                  | 0.52 (0.00, 1.52)  | 0.0156  |
|  | Intermediate | 352 (14)                 | 4.28 (2.06, 6.45)  |         |
|  | High         | 54 (4)                   | 7.71 (0.15, 14.70) |         |
| CU-HCC   | Low          | 315 (3)                  | 0.98 (0.00, 2.07)  | 0.0058  |
|  | Intermediate | 221 (12)                 | 5.84 (2.57, 9.00)  |         |
|  | High         | 67 (4)                   | 6.40 (0.12, 12.28) |         |
| RWS-HCC  | Low          | 379 (3)                  | 0.84 (0.00, 1.78)  | <0.0001 |
|  | High         | 224 (16)                 | 7.75 (4.02, 11.33) |         |
| CAGE-B   | Low          | 220 (2)                  | 1.00 (0.00, 2.37)  | 0.0311  |
|  | Intermediate | 277 (14)                 | 5.40 (2.60, 8.12)  |         |
|  | High         | 106 (3)                  | 3.07 (0.00, 6.45)  |         |

**Supplementary Table 6-5.** K-M cumulative incidence of HCC in low/intermediate/high risk groups according to each risk prediction model cut-off values using on treatment values at year 4.5

| Model  | Category     | N of patients (n of HCC) | Risk               | P      |
|--|--------------|--------------------------|--------------------|--------|
| Untreated models with the cirrhosis variable           |              |                          |                    |        |
| GAG-HCC  | Low          | 489 (16)                 | 3.63 (1.85, 5.38)  | 0.9399 |
|  | High         | 100 (3)                  | 3.38 (0.00, 7.08)  |        |
| Treated or mixed models without the cirrhosis variable |              |                          |                    |        |
| LSM-HCC  | Low          | 425 (11)                 | 2.89 (1.18, 4.58)  | 0.1338 |
|  | High         | 164 (8)                  | 5.44 (1.66, 9.07)  |        |
| SAGE-B   | Low          | 296 (8)                  | 3.10 (0.93, 5.23)  | 0.4036 |
|  | Intermediate | 228 (10)                 | 4.80 (1.84, 7.68)  |        |
|  | High         | 65 (1)                   | 1.59 (0.00, 4.63)  |        |
| mPAGE-B  | Low          | 155 (1)                  | 0.92 (0.00, 2.69)  | 0.0706 |
|  | Intermediate | 301 (14)                 | 5.14 (2.45, 7.75)  |        |
|  | High         | 133 (4)                  | 3.18 (0.06, 6.20)  |        |
| PAGE-B   | Low          | 96 (1)                   | 1.47 (0.00, 4.29)  | 0.3247 |
|  | Intermediate | 338 (11)                 | 3.59 (1.46, 5.67)  |        |
|  | High         | 155 (7)                  | 4.84 (1.27, 8.28)  |        |
| aMAP   | Low          | 76 (0)                   | 0.00 (0.00, 0.00)  | 0.1990 |
|  | Intermediate | 246 (8)                  | 3.66 (1.11, 6.15)  |        |
|  | High         | 267 (11)                 | 4.55 (1.87, 7.16)  |        |
| Treated or mixed models with the cirrhosis variable    |              |                          |                    |        |
| AASL-HCC   | Low          | 136 (0)                  | 0.00 (0.00, 0.00)  | 0.0529 |
|  | Intermediate | 365 (15)                 | 4.62 (2.28, 6.90)  |        |
|  | High         | 88 (4)                   | 4.84 (0.09, 9.37)  |        |
| CAMD   | Low          | 224 (3)                  | 1.55 (0.00, 3.29)  | 0.1196 |
|  | Intermediate | 233 (11)                 | 5.21 (2.14, 8.19)  |        |
|  | High         | 132 (5)                  | 4.09 (0.51, 7.55)  |        |
| REAL-B   | Low          | 190 (1)                  | 0.59 (0.00, 1.73)  | 0.0380 |
|  | Intermediate | 357 (16)                 | 5.01 (2.56, 7.40)  |        |
|  | High         | 42 (2)                   | 5.14 (0.00, 11.82) |        |
| CU-HCC   | Low          | 308 (5)                  | 1.81 (0.21, 3.38)  | 0.0613 |
|  | Intermediate | 213 (11)                 | 5.81 (2.38, 9.11)  |        |
|  | High         | 68 (3)                   | 4.80 (0.00, 9.97)  |        |
| RWS-HCC  | Low          | 377 (5)                  | 1.57 (0.18, 2.93)  | 0.0004 |
|  | High         | 212 (14)                 | 7.25 (3.48, 10.87) |        |
| CAGE-B   | Low          | 215 (4)                  | 2.31 (0.02, 4.56)  | 0.1217 |
|  | Intermediate | 268 (13)                 | 5.26 (2.42, 8.02)  |        |
|  | High         | 106 (2)                  | 1.99 (0.00, 4.69)  |        |

**Supplementary Table 6-6.** K-M cumulative incidence of HCC in low/intermediate/high risk groups according to each risk prediction model cut-off values using on treatment values at year 5

| Model  | Category     | N of patients (n of HCC) | Risk               | P      |
|--|--------------|--------------------------|--------------------|--------|
| Untreated models with the cirrhosis variable           |              |                          |                    |        |
| GAG-HCC  | Low          | 467 (10)                 | 2.72 (1.00, 4.40)  | 0.4678 |
|  | High         | 95 (3)                   | 3.44 (0.00, 7.20)  |        |
| Treated or mixed models without the cirrhosis variable |              |                          |                    |        |
| LSM-HCC  | Low          | 394 (8)                  | 2.51 (0.73,4.25)   | 0.4125 |
|  | High         | 168 (5)                  | 3.74 (0.41,6.96)   |        |
| SAGE-B   | Low          | 272 (4)                  | 1.85 (0.01,3.65)   | 0.1120 |
|  | Intermediate | 237 (9)                  | 4.59 (1.55,7.53)   |        |
|  | High         | 53 (0)                   | 0.00 (0.00, 0.00)  |        |
| mPAGE-B  | Low          | 137 (2)                  | 2.02 (0.00, 4.77)  | 0.6938 |
|  | Intermediate | 294 (8)                  | 3.29 (0.96, 5.56)  |        |
|  | High         | 131 (3)                  | 2.64 (0.00, 5.57)  |        |
| PAGE-B   | Low          | 82 (1)                   | 1.67 (0.00, 4.85)  | 0.6132 |
|  | Intermediate | 316 (7)                  | 2.87 (0.70, 5.00)  |        |
|  | High         | 164 (5)                  | 3.22 (0.40, 5.96)  |        |
| aMAP   | Low          | 67 (1)                   | 2.08 (0.00, 6.04)  | 0.7559 |
|  | Intermediate | 237 (5)                  | 2.46 (0.29, 4.59)  |        |
|  | High         | 258 (7)                  | 3.37 (0.79, 5.88)  |        |
| Treated or mixed models with the cirrhosis variable    |              |                          |                    |        |
| AASL-HCC   | Low          | 130 (2)                  | 2.16 (0.00, 5.10)  | 0.5858 |
|  | Intermediate | 348 (8)                  | 2.85 (0.84, 4.83)  |        |
|  | High         | 84 (3)                   | 3.74 (0.00, 7.80)  |        |
| CAMD   | Low          | 229 (2)                  | 1.19 (0.00, 2.84)  | 0.1377 |
|  | Intermediate | 215 (7)                  | 4.17 (1.01, 7.22)  |        |
|  | High         | 118 (4)                  | 3.62 (0.07, 7.05)  |        |
| REAL-B   | Low          | 183 (2)                  | 1.56 (0.00, 3.70)  | 0.1913 |
|  | Intermediate | 342 (9)                  | 3.23 (1.08, 5.33)  |        |
|  | High         | 37 (2)                   | 5.56 (0.00, 12.75) |        |
| CU-HCC   | Low          | 324 (3)                  | 1.41 (0.00, 2.99)  | 0.0211 |
|  | Intermediate | 177 (7)                  | 4.66 (1.19, 8.02)  |        |
|  | High         | 61 (3)                   | 5.30 (0.00, 10.96) |        |
| RWS-HCC  | Low          | 385 (5)                  | 1.80 (0.20, 3.39)  | 0.0115 |
|  | High         | 177 (8)                  | 5.15 (1.56, 8.61)  |        |
| CAGE-B   | Low          | 195 (3)                  | 1.93 (0.00, 4.08)  | 0.3057 |
|  | Intermediate | 269 (9)                  | 4.07 (1.37, 6.71)  |        |
|  | High         | 98 (1)                   | 1.10 (0.00, 3.22)  |        |