**Supplementary Table 2. Correlation of baseline characteristics and ILICI**

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| **Variable** | **ILICI**  | **Grade ≥ 3 ILICI** | **Grade ≥ 4 ILICI** |
|  | **R2** | **P** | **R2** | **P** | **R2** | **P** |
| Age  | −0.058 | 0.165 | −0.031 | 0.459 | −0.057 | 0.169 |
| Sex  | 0.030 | 0.474 | 0.032 | 0.440 | −0.081 | 0.049 |
| Liver metastasis | 0.025 | 0.547 | 0.061 | 0.141 | 0.109 | 0.008 |
| **Laboratory index** |  |  |  |  |  |  |
| WBC  | −0.073 | 0.078 | −0.043 | 0.299 | −0.028 | 0.495 |
| RBC | −0.023 | 0.581 | −0.046 | 0.271 | −0.075 | 0.068 |
| Hemoglobin  | −0.013 | 0.745 | −0.010 | 0.813 | −0.083 | 0.044 |
| PLT  | −0.041 | 0.323 | −0.050 | 0.224 | −0.012 | 0.773 |
| Monocyte  | −0.010 | 0.818 | 0.060 | 0.149 | −0.028 | 0.502 |
| Lymph  | −0.003 | 0.937 | −.0.002 | 0.953 | −0.002 | 0.953 |
| Eos  | 0.089 | 0.031 | 0.081 | 0.051 | 0.081 | 0.051 |
| BAS | −0.045 | 0.274 | 0.039 | 0.350 | 0.039 | 0.350 |
| ALT  | −0.068 | 0.114 | −0.026 | 0.548 | −0.031 | 0.466 |
| AST | −0.076 | 0.077 | −0.016 | 0.708 | −0.021 | 0.621 |
| ALP | −0.091 | 0.033 | −0.021 | 0.623 | −0.064 | 0.133 |
| GGT  | −0.029 | 0.504 | 0.013 | 0.761 | −0.068 | 0.112 |
| TBIL  | 0.007 | 0.879 | −0.014 | 0.744 | −0.024 | 0.580 |
| DBIL  | −0.085 | 0.051 | −0.074 | 0.090 | −0.056 | 0.203 |
| IBIL  | −0.019 | 0.657 | −0.006 | 0.899 | 0.005 | 0.915 |
| ALB  | −0.087 | 0.044 | −0.092 | 0.033 | −0.065 | 0.128 |
| CRE  | 0.012 | 0.023 | 0.052 | 0.235 | −0.111 | 0.010 |
| PD-L1 expression | −0.049 | 0.241 | −0.073 | 0.076 | −0.036 | 0.390 |
| Thyroglobulin antibodies | 0.118 | 0.004 | 0.120 | 0.004 | 0.175 | <0.001 |
| ANA | 0.002 | 0.964 | 0.048 | 0.247 | 0.098 | 0.017 |
| TPO | 0.153 | <0.001 | 0.136 | 0.001 | −0.012 | 0.768 |
| CRP | 0.031 | 0.451 | 0.045 | 0.275 | 0.041 | 0.326 |
| ACTH | 0.002 | 0.964 | 0.003 | 0.940 | −0.016 | 0.707 |
| TSH | −0.024 | 0.555 | −0.042 | 0.311 | 0.045 | 0.277 |
| T3 | 0.018 | 0.656 | −0.049 | 0.236 | −0.018 | 0.658 |
| T4 | −0.013 | 0.755 | −0.034 | 0.406 | −0.013 | 0.756 |
| Cortisol at 8 am | −0.015 | 0.721 | −0.018 | 0.663 | 0.026 | 0.526 |
| Electrolyte | −0.023 | 0.572 | −0.005 | 0.913 | 0.049 | 0.239 |
| **Lifestyle** |  |  |  |  |  |  |
| Smoking | −0.032 | 0.445 | −0.001 | 0.989 | −0.042 | 0.313 |
| Drinking | −0.001 | 0.984 | 0.019 | 0.649 | −0.103 | 0.013 |
| **Underlying disease** |  |  |  |  |  |  |
| Hypertension | −0.068 | 0.103 | −0.048 | 0.246 | 0.062 | 0.132 |
| Diabetes mellitus | −0.017 | 0.687 | −0.042 | 0.306 | −0.033 | 0.424 |
| Coronary heart disease | 0.045 | 0.274 | 0.034 | 0.416 | 0.085 | 0.041 |
| Hepatitis | 0.041 | 0.321 | 0.034 | 0.407 | 0.089 | 0.031 |
| Stroke | 0.006 | 0.885 | 0.008 | 0.847 | 0.028 | 0.505 |
| Hepatic cyst | 0.039 | 0.346 | 0.042 | 0.308 | 0.067 | 0.105 |
| Abnormal lipids metabolism | 0.087 | 0.035 | 0.049 | 0.239 | 0.088 | 0.034 |
| NAFLD | 0.047 | 0.260 | 0.037 | 0.369 | −0.039 | 0.342 |
| liver cirrhosis | 0.014 | 0.732 | −0.036 | 0.385 | −0.013 | 0.746 |
| Choledocholithiasis | 0.059 | 0.153 | 0.081 | 0.051 | 0.149 | <0.001 |
| Cholecystitis | 0.059 | 0.157 | 0.065 | 0.117 | 0.144 | <0.001 |
| Hypoproteinemia | 0.131 | 0.001 | 0.090 | 0.030 | 0.078 | 0.059 |
| Renal dysfunction | 0.105 | 0.011 | 0.145 | <0.001 | 0.111 | 0.007 |
| **Other characteristics** |  |  |  |  |  |  |
| Tumor surgical history | −0.019 | 0.640 | 0.010 | 0.815 | −0.010 | 0.804 |
| History of blood disease | 0.033 | 0.430 | 0.068 | 0.100 | −0.008 | 0.852 |
| Family medical history, grade 1/2 | −0.001 | 0.988 | 0.049 | 0.232 | 0.025 | 0.540 |
| PD1 cycle | −0.003 | 0.947 | −0.015 | 0.725 | −0.025 | 0.553 |
| Accumulated dose in mg | −0.147 | <0.001 | −0.110 | 0.008 | −0.038 | 0.356 |

WBC, white blood cell count; RBC, red blood count; PLT, platelet count; BAS, basophilia;

ALT, alanine transaminase; AST, aspartate transaminase; ALP, alkaline phosphatase; GGT, alkaline phosphatase; TBIL, total bilirubin; DBIL, direct bilirubin; IBIL, indirect bilirubin; ALB, albumin; CRE, creatinine; ANA, anti nuclear antibody; TPO, thyroid peroxidase antibody; CRP, C-reactive protein; ACTH, adrenocorticotropic hormone; TSH, thyroid stimulating hormone; T3, triiodothyronine; T4, thyroxine; NAFLD, nonalcoholic fatty liver disease.