

**Table S2** Clinical baseline features related to overall survival (OS) after surgery screened by univariate and multivariate Cox regression methods.

| Characteristics | Univariate analysis  |        | Multi-variable analysis     |              |
|-----------------|----------------------|--------|-----------------------------|--------------|
|                 | HR (95% CI)          | P      | HR (95% CI)                 | P            |
| Sex             |                      | 0.999  |                             |              |
| Male            | Reference            |        |                             |              |
| Female          | 1.000 (0.482-2.075)  | 0.999  |                             |              |
| Age             |                      | 0.236  |                             |              |
| <60             | Reference            |        |                             |              |
| ≥60             | 0.692 (0.376-1.273)  | 0.236  | <b>0.635 (0.320-1.259)</b>  | <b>0.194</b> |
| BMI             | 0.990 (0.898-1.091)  | 0.835  |                             |              |
| Cirrhosis       |                      | 0.428  |                             |              |
| Yes             | Reference            |        |                             |              |
| No              | 0.789 (0.439-1.417)  | 0.428  |                             |              |
| Hepatitis B     |                      | 0.636  |                             |              |
| Yes             | Reference            |        |                             |              |
| No              | 0.849 (0.430-1.675)  | 0.636  |                             |              |
| Hepatitis C     |                      | 0.449  |                             |              |
| Yes             | Reference            |        |                             |              |
| No              | 0.578 (0.140-2.388)  | 0.449  | <b>0.229 (0.044-1.187)</b>  | <b>0.079</b> |
| Smoking         |                      | 0.790  |                             |              |
| Yes             | Reference            |        |                             |              |
| No              | 0.896 (0.400-2.007)  | 0.790  |                             |              |
| Drinking        |                      | 0.657  |                             |              |
| Yes             | Reference            |        |                             |              |
| No              | 1.234 (0.487-3.128)  | 0.657  |                             |              |
| BCLC grade      |                      | <0.001 |                             |              |
| 0               | Reference            |        |                             |              |
| A               | 4.848 (1.163-20.206) | 0.03   | <b>6.031 (1.409-25.815)</b> | <b>0.015</b> |

|            |                       |        |                              |                  |
|------------|-----------------------|--------|------------------------------|------------------|
| B          | 13.561 (2.970-61.920) | <0.001 | <b>15.976 (3.402-75.020)</b> | <b>&lt;0.001</b> |
| TB         | 0.995 (0.950-1.043)   | 0.848  | <b>0.969 (0.913-1.028)</b>   | <b>0.295</b>     |
| DB         |                       | 0.242  |                              |                  |
| Normal     | Reference             |        |                              |                  |
| Abnormal   | 1.484 (0.766-2.873)   | 0.242  | <b>2.113 (0.899-4.968)</b>   | <b>0.086</b>     |
| ALB        | 0.947 (0.870-1.031)   | 0.207  | 0.960 (0.872-1.058)          | 0.414            |
| ALT        | 1.000 (0.993-1.007)   | 0.940  |                              |                  |
| AST        | 1.003 (0.997-1.010)   | 0.335  | 1.002 (0.994-1.010)          | 0.596            |
| GGT        | 1.001 (0.999-1.002)   | 0.460  |                              |                  |
| PA         | 0.026 (0.000-7.282)   | 0.204  | 0.073 (0.000-120.518)        | 0.488            |
| Urea       | 0.904 (0.728-1.124)   | 0.364  | 1.013 (0.794-1.292)          | 0.917            |
| Creatinine | 0.998 (0.979-1.017)   | 0.815  |                              |                  |
| Uric acid  | 1.000 (0.995-1.004)   | 0.869  |                              |                  |
| PT         | 1.162 (0.964-1.402)   | 0.116  | <b>0.826 (0.628-1.087)</b>   | <b>0.173</b>     |
| INR        |                       | <0.001 |                              |                  |
| Normal     | Reference             |        |                              |                  |
| Abnormal   | 10.162 (4.277-24.142) | <0.001 | <b>23.119 (6.502-82.201)</b> | <b>&lt;0.001</b> |
| AFP        | 1.000 (1.000-1.000)   | 0.247  | 1.000 (1.000-1.000)          | 0.592            |
| CEA        | 1.106 (0.964-1.270)   | 0.152  | <b>1.113 (0.957-1.294)</b>   | <b>0.167</b>     |
| Hb         | 1.002 (0.985-1.020)   | 0.786  |                              |                  |
| WBC        | 0.979 (0.834-1.149)   | 0.793  |                              |                  |
| PLT        | 1.001 (0.998-1.004)   | 0.506  | <b>1.003 (0.999-1.007)</b>   | <b>0.109</b>     |

Note: BMI: Body Mass Index; BCLC: Barcelona Clinic Liver Cancer; TB: Total Bilirubin; DB: Direct Bilirubin; ALB: Albumin; ALT: Alanine Transaminase; AST: Aspartate Aminotransferase; GGT:  $\gamma$ -glutamyl Transferase; PA: Prealbumin; PT: Prothrombin Time; INR: International Normalized Ratio; AFP: Alpha Fetoprotein; CEA: Carcinoembryonic Antigen; Hb: Hemoglobin; WBC: White Blood Cell; PLT: Platelet Count. When  $P < 0.4$ , the factor was included in the multivariate regression model used to screen for OS-related factors. It is important to emphasize that among the screening OS-related factors, although certain indicators did not reach critical values

(P values) in this dataset, they were still included because they have been generally agreed upon by previous clinical studies.