### Supplementary Table 2. Multivariable Cox proportional hazard models for RFS, OS, and CSS in non-clear cell RCC patients (n=442)

| Variables                      | RFS HR (95% CI) | p-value | OS HR (95% CI) | p-value | CSS HR (95% CI) | p-value |
|--------------------------------|-----------------|---------|----------------|---------|----------------|---------|
| **Clinical parameters**        |                 |         |                |         |                |         |
| Symptomatic presentation (no vs. yes) | 4.036 (1.853–8.794) | <0.001 | 2.974 (1.412–6.264) | 0.004 | 9.547 (3.316–27.487) | <0.001 |
| Age (continuous)               | 0.987 (0.963–1.010) | 0.269 | 1.036 (1.012–1.061) | 0.003 | 0.988 (0.957–1.020) | 0.463 |
| Body mass index (continuous)   | 0.853 (0.737–0.987) | 0.033 | 0.922 (0.809–1.052) | 0.230 | 0.741 (0.631–0.870) | <0.001 |
| ECOG performance status (ref. 0) |                 |         |                |         |                |         |
| 1                              | 2.887 (1.402–5.947) | 0.004 | 1.121 (0.556–2.259) | 0.750 | 1.568 (0.611–4.023) | 0.349 |
| 2                              | 1.455 (0.299–7.067) | 0.642 | 2.099 (0.475–9.280) | 0.328 | 8.484 (1.252–57.467) | 0.028 |
| 3                              | N/A             | N/A    | 57.003 (6.911–470.194) | <0.001 | 225.072 (17.559–2,884.991) | <0.001 |
| Hypertension (no vs. yes)      | 1.386 (0.584–3.294) | 0.459 | 1.680 (0.743–3.799) | 0.213 | 3.038 (1.133–8.146) | 0.027 |
| Diabetes mellitus (no vs. yes) | 2.524 (0.949–6.707) | 0.063 | 1.891 (0.656–5.453) | 0.238 | 4.041 (1.230–13.271) | 0.021 |
| Preoperative hemoglobin (continuous) | 0.675 (0.565–0.807) | <0.001 | 0.946 (0.765–1.170) | 0.610 | 0.997 (0.782–1.272) | 0.982 |
| Receipt of PBT (no vs. yes)    | 1.376 (0.522–3.625) | 0.518 | 1.936 (0.733–5.112) | 0.182 | 2.474 (0.779–7.852) | 0.124 |
| **Pathologic parameters**      |                 |         |                |         |                |         |
| Maximal tumor diameter (continuous) | 1.053 (0.948–1.171) | 0.335 | 1.142 (1.054–1.236) | 0.001 | 1.244 (1.101–1.405) | <0.001 |
| Pathologic tumor stage (ref. pT1) |                 |         |                |         |                |         |
| pT2                            | 1.413 (0.478–4.180) | 0.532 | 0.422 (0.114–1.556) | 0.195 | 0.374 (0.085–1.643) | 0.193 |
| pT3                            | 3.514 (1.394–8.857) | 0.008 | 1.062 (0.358–3.145) | 0.914 | 2.187 (0.595–8.040) | 0.239 |
| pT4                            | 4.630 (0.482–44.445) | 0.184 | 9.047 (0.489–167.217) | 0.139 | 8.956 (0.647–123.987) | 0.102 |
| Fuhrmann nuclear grade (ref. 1–2) |                 |         |                |         |                |         |
| 3                              | 2.816 (0.905–8.756) | 0.074 | 1.610 (0.639–4.059) | 0.312 | 4.236 (1.016–18.418) | 0.048 |
| 4                              | 2.874 (0.648–12.738) | 0.165 | 0.626 (0.127–3.089) | 0.565 | 1.702 (0.297–9.767) | 0.551 |
| Pseudosarcomatous component (no vs. yes) | 0.537 (0.087–3.326) | 0.504 | 0.948 (0.170–5.279) | 0.951 | 0.807 (0.107–6.088) | 0.835 |
| Tumor necrosis (no vs. yes)    | 1.476 (0.646–3.370) | 0.356 | 0.686 (0.331–1.419) | 0.309 | 0.629 (0.243–1.630) | 0.340 |
| pN1                            | 5.374 (1.910–15.120) | 0.001 | 11.139 (4.122–30.102) | <0.001 | 36.286 (7.781–169.223) | <0.001 |

RFS, recurrence-free survival; OS, overall survival; CSS, cancer-specific survival; RCC, renal cell carcinoma; HR, hazard ratio; CI, confidence interval; ECOG, Eastern Cooperative Oncology Group; PBT, perioperative blood transfusion.