

**S5 Table.** Inter-reader agreement of CT imaging features

CT feature	Development cohort Fleiss' $\kappa$ (95% CI)	Percentage of agreement (%)	Validation cohort Fleiss' $\kappa$ (95% CI)	Percentage of agreement (%)
Tumor size <sup>a)</sup>	0.99 (0.99-0.99)	NA	0.99 (0.99-0.99)	NA
Tumor multiplicity	0.59 (0.52-0.67)	209/264 (79.2)	0.52 (0.40-0.63)	79/101 (78.2)
Tumor contour	0.39 (0.32-0.47)	199/264 (75.4)	0.40 (0.29-0.52)	76/101 (75.2)
Tumor location	0.78 (0.70-0.86)	231/264 (87.5)	0.77 (0.66-0.88)	85/101 (84.2)
AP enhancement pattern	0.44 (0.36-0.52)	205/264 (77.7)	0.34 (0.23-0.46)	79/101 (78.2)
AP peritumoral enhancement	0.63 (0.55-0.70)	196/264 (74.2)	0.50 (0.39-0.61)	65/101 (64.4)
Delayed central enhancement	0.26 (0.18-0.34)	143/264 (54.2)	0.22 (0.11-0.34)	46/101 (45.5)
Vascular invasion	0.66 (0.58-0.74)	196/264 (74.2)	0.80 (0.69-0.91)	84/101 (83.2)
Tumor-in-vein	0.73 (0.65-0.81)	258/264 (97.7)	0.69 (0.58-0.80)	97/101 (96.0)
Extrahepatic organ invasion	0.39 (0.31-0.47)	225/264 (85.2)	0.44 (0.33-0.55)	90/101 (89.1)
Suspicious lymph node metastasis	0.70 (0.62-0.78)	215/264 (81.4)	0.72 (0.61-0.83)	83/101 (82.2)
Bile duct invasion	0.81 (0.74-0.89)	228/264 (86.4)	0.87 (0.75-0.98)	90/101 (89.1)

AP, arterial-phase; CI, confidence interval; CT, computed tomography; NA, not available. <sup>a)</sup>Data are intraclass correlation coefficients with 95% CIs in parentheses.