

Figure S1 Flow chart of the study design. NSCLC, non-small cell lung cancer.

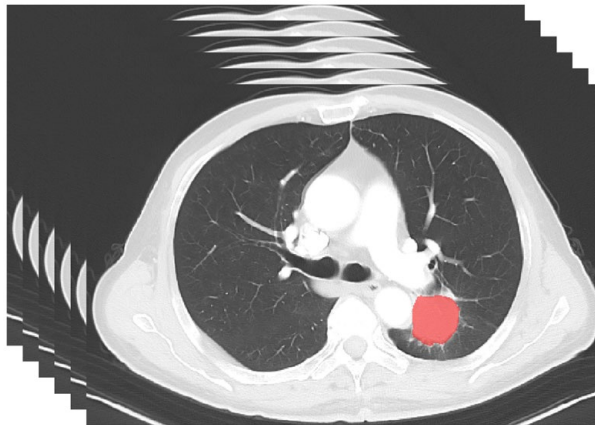


Figure S2 Regions of Interest determination. The red area is regions of interest.

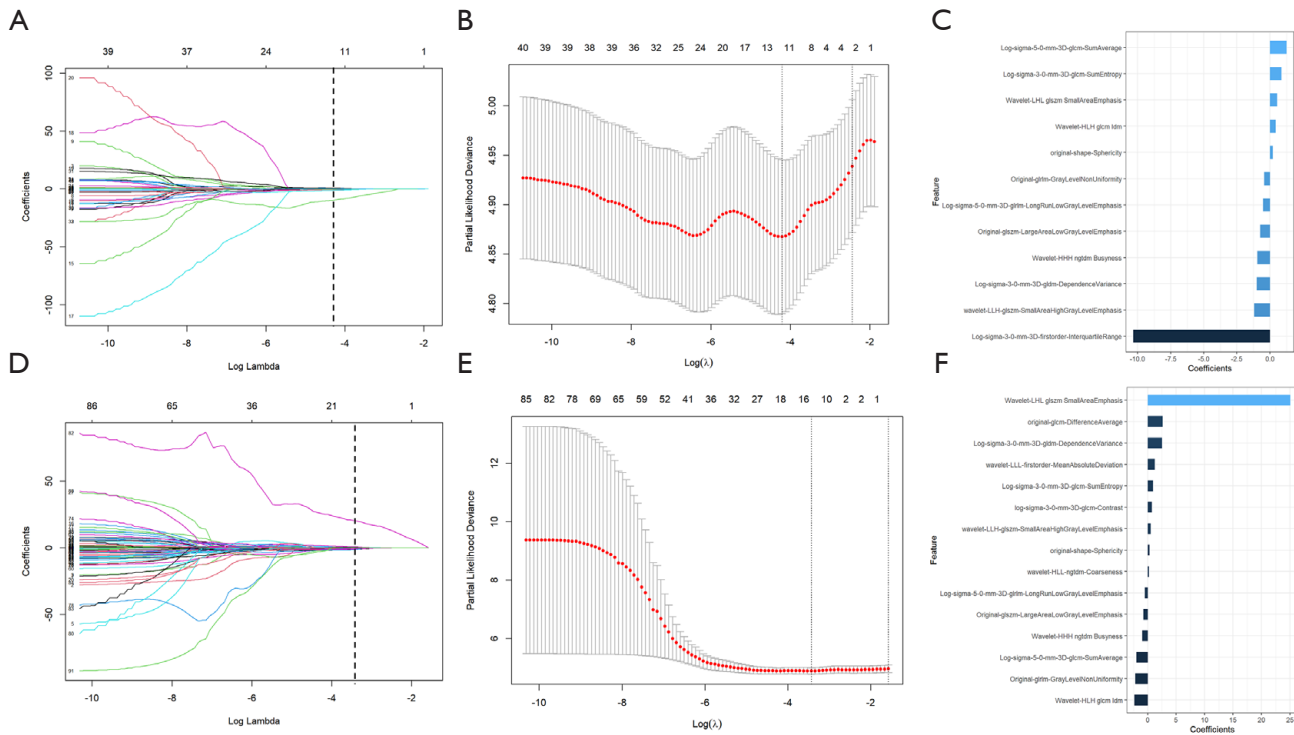


Figure S3 Radiomics feature selection using the LASSO method. Radiomic features with nonzero coefficients for predicting PFS (A) and OS (D). Distribution of coefficients for predicting the radiomic features related to PFS (B) and OS (E). Optimal combination and their coefficients for predicting PFS (C) and OS (F). LASSO, least absolute shrinkage and selection operator; PFS, progression-free survival; OS, overall survival.

Table S1 AUC values of the nomogram for predicting 6-, 12-, and 18-month PFS in the training and validation cohorts

Characteristics	Training AUC (95% CI)			Validation AUC (95% CI)		
	6-month	12-month	18-month	6-month	12-month	18-month
Duration	0.642 (0.579–0.704)	0.685 (0.618–0.751)	0.669 (0.567–0.770)	0.612 (0.527–0.718)	0.712 (0.638–0.823)	0.709 (0.569–0.849)
Liver metastasis	0.573 (0.529–0.618)	0.562 (0.538–0.586)	0.550 (0.531–0.571)	0.513 (0.502–0.573)	0.532 (0.513–0.704)	0.526 (0.504–0.549)
Clinical N stage	0.543 (0.513–0.733)	0.553 (0.511–0.665)	0.627 (0.523–0.731)	0.523 (0.506–0.680)	0.542 (0.511–0.703)	0.645 (0.563–0.797)
Post-PD treatment*	0.602 (0.537–0.667)	0.571 (0.513–0.645)	0.598 (0.517–0.716)	0.519 (0.501–0.601)	0.593 (0.521–0.679)	0.631 (0.526–0.768)
Rad score	0.645 (0.571–0.720)	0.714 (0.639–0.789)	0.818 (0.750–0.886)	0.609 (0.507–0.721)	0.743 (0.623–0.861)	0.902 (0.864–0.959)
Nomogram	0.731 (0.664–0.798)	0.809 (0.748–0.870)	0.878 (0.800–0.956)	0.672 (0.574–0.784)	0.774 (0.677–0.864)	0.826 (0.734–0.962)

*, treatment after progression following the first immunotherapy. AUC, area under the curve; PFS, progression-free survival; CI, confidence interval; Duration, the time interval between the first immunotherapy and disease progression; PD, disease progression per RECIST v1.1; Rad score, radiomics score.

Table S2 AUC of the nomogram for predicting 12-, 18-, and 24-month OS in the training and validation cohorts

Characteristics	Training AUC (95% CI)			Validation AUC (95% CI)		
	12-month	18-month	24-month	12-month	18-month	24-month
Duration	0.594 (0.523–0.666)	0.579 (0.513–0.646)	0.723 (0.625–0.821)	0.659 (0.552–0.766)	0.641 (0.544–0.739)	0.660 (0.539–0.857)
Age	0.582 (0.510–0.654)	0.610 (0.545–0.676)	0.669 (0.571–0.768)	0.566 (0.523–0.685)	0.540 (0.512–0.753)	0.628 (0.534–0.776)
Clinical N stage	0.553 (0.515–0.636)	0.683 (0.592–0.767)	0.725 (0.651–0.844)	0.529 (0.509–0.687)	0.565 (0.529–0.751)	0.614 (0.514–0.719)
Post-PD treatment*	0.608 (0.538–0.678)	0.594 (0.525–0.656)	0.723 (0.634–0.813)	0.525 (0.505–0.647)	0.532 (0.509–0.616)	0.574 (0.511–0.772)
Rad score	0.701 (0.627–0.776)	0.759 (0.694–0.825)	0.785 (0.683–0.888)	0.762 (0.576–0.868)	0.634 (0.514–0.754)	0.677 (0.576–0.947)
Nomogram	0.742 (0.673–0.811)	0.782 (0.723–0.842)	0.868 (0.779–0.956)	0.833 (0.738–0.929)	0.705 (0.599–0.811)	0.762 (0.641–0.882)

*, treatment after progression following the first immunotherapy. AUC, area under the curve; OS, overall survival; CI, confidence interval; PD, disease progression per RECIST v1.1; Rad score, radiomics score.

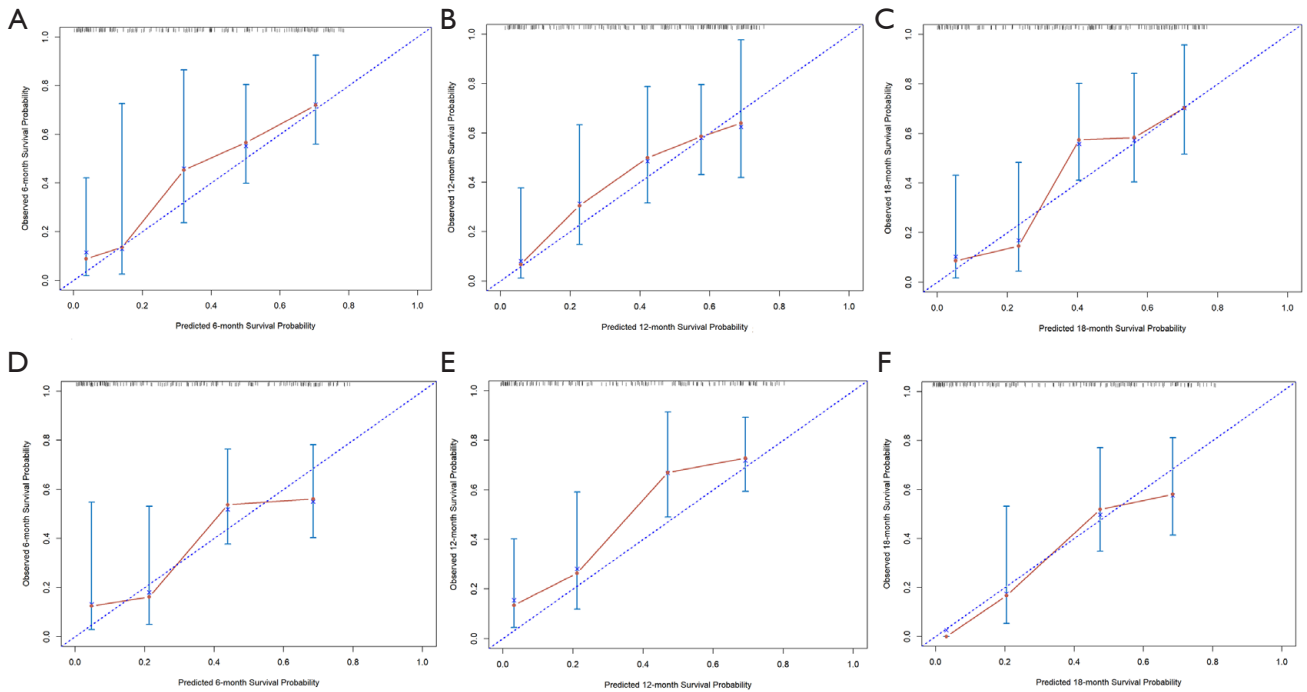


Figure S4 Calibration curves for nomograms predicting PFS. Calibration curves for 6-month (A), 12-month (B), and 18-month PFS (C) in the training cohort and 6-month (D), 12-month (E), and 18-month PFS (F) in the validation cohort. PFS, progression-free survival.

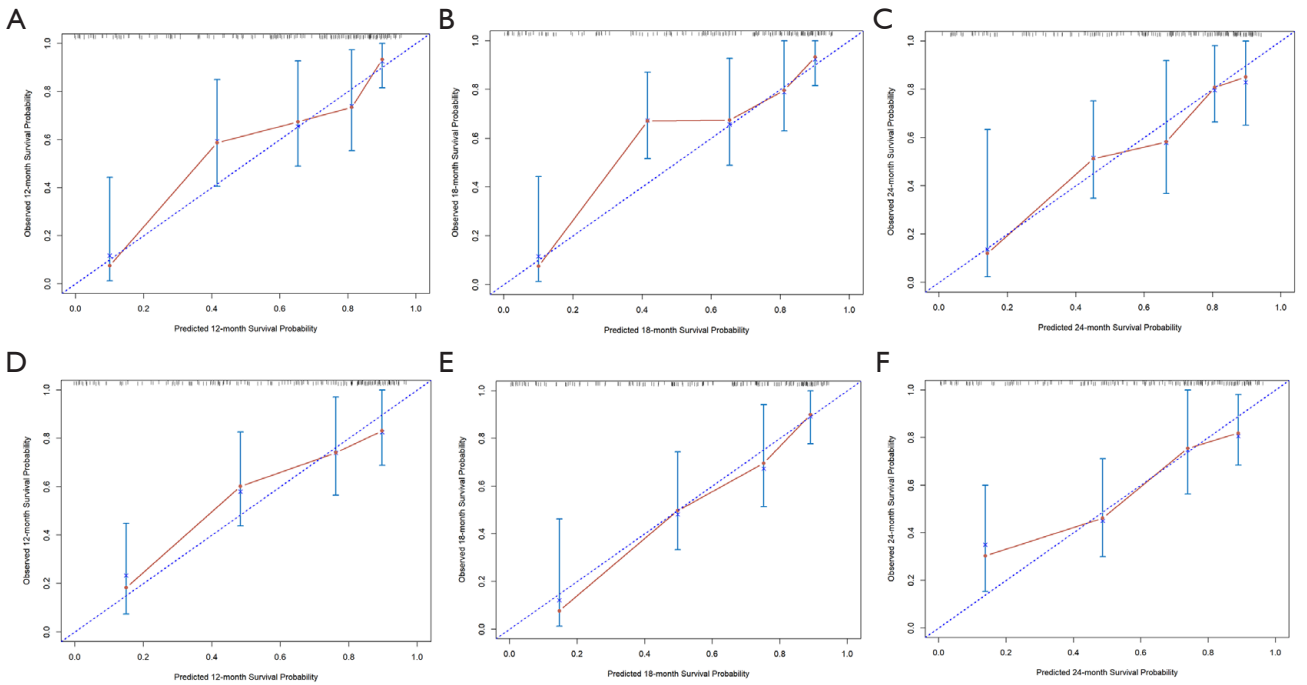


Figure S5 Calibration curves for nomograms predicting OS. Calibration curves for 12-month (A), 18-month (B), and 24-month OS (C) in the training cohort and 12-month (D), 18-month (E), and 24-month OS (F) in the validation cohort. OS, overall survival.

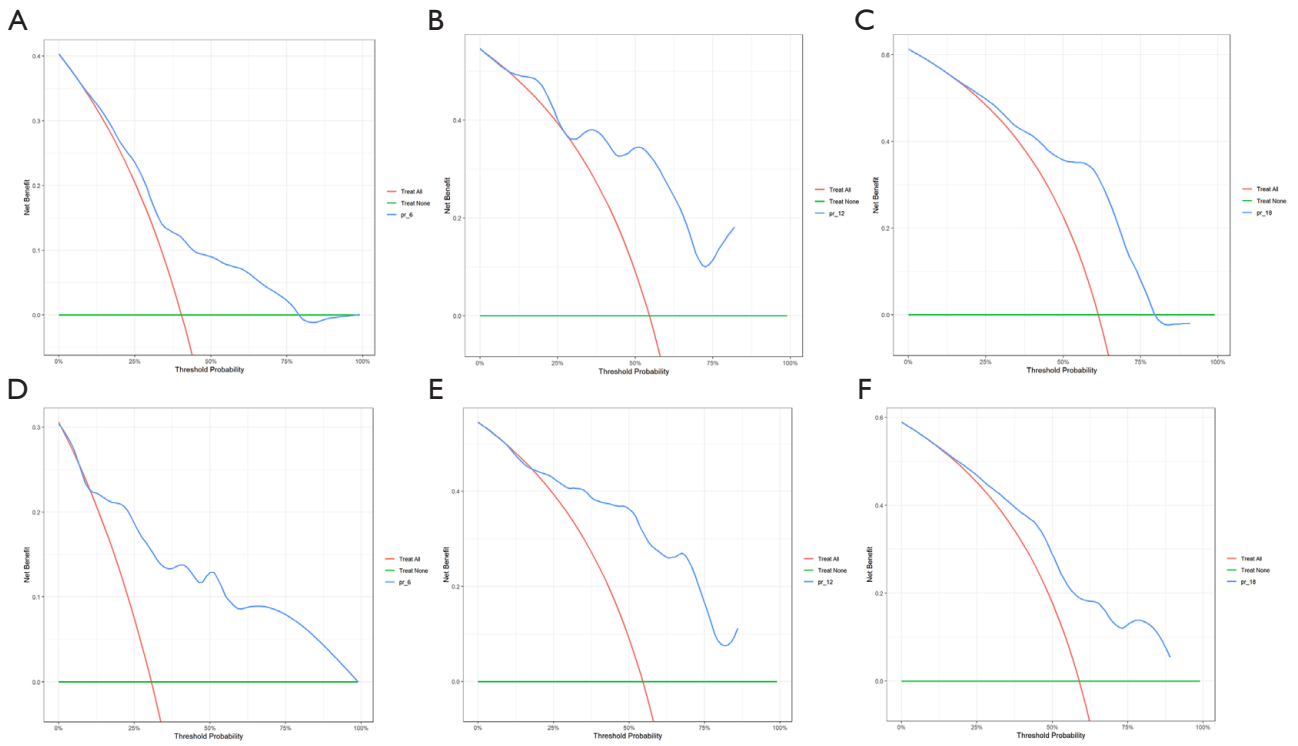


Figure S6 Decision curves for nomograms predicting PFS. Decision curves for 6-month (A), 12-month (B), and 18-month PFS (C) in the training cohort and 6-month (D), 12-month (E), and 18-month PFS (F) in the validation cohort. PFS, progression-free survival.

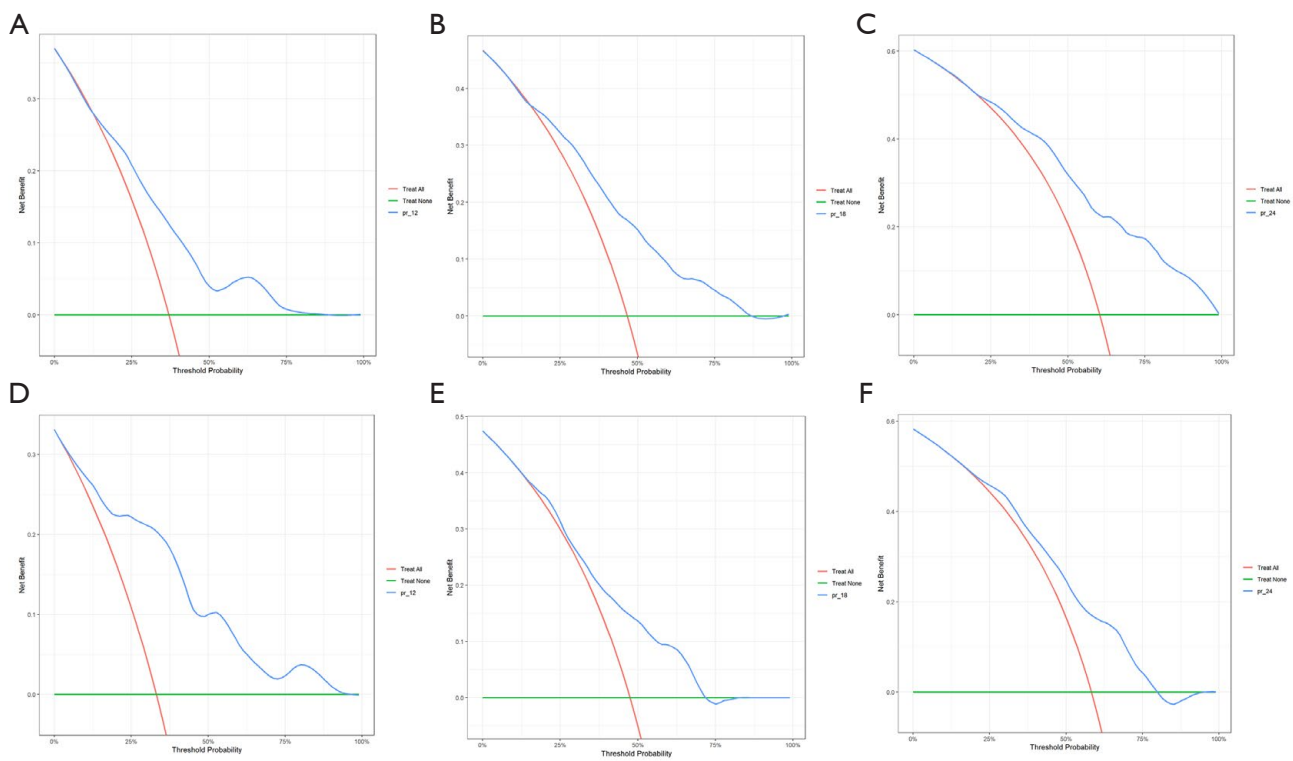


Figure S7 Decision curves for nomograms predicting OS. Decision curves for 12-month (A), 18-month (B), and 24-month OS (C) in the training cohort and 12-month (D), 18-month (E), and 24-month OS (F) in the validation cohort. OS, overall survival.