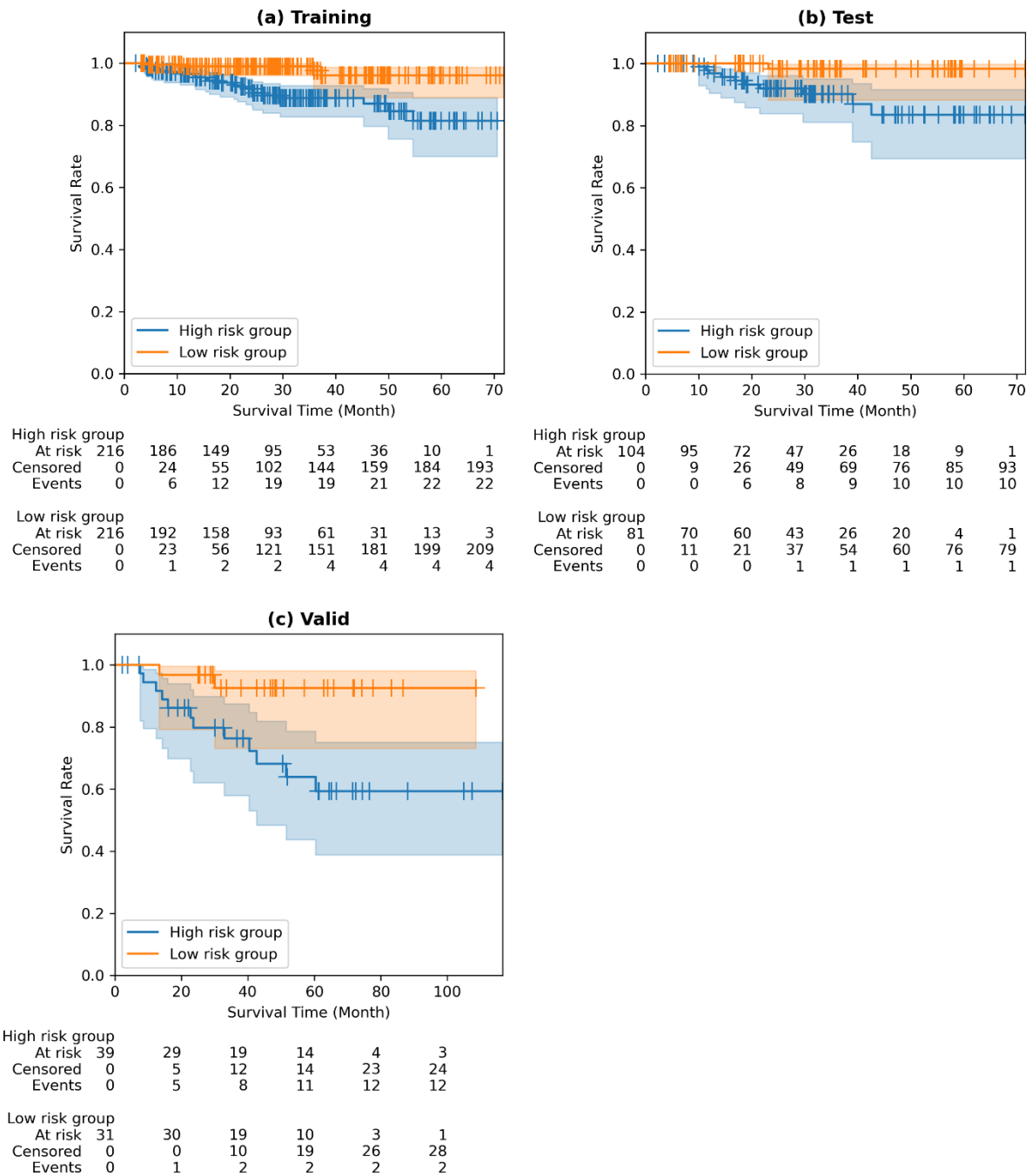## Supplementary Figures

Figure S1. Kaplan–Meier plots of radiomics-guided DL model using Dense network. (a) Kaplan–Meier plot of training cohort, hazard ratio of 4.4383 (95% CI of 2.0468–9.6241), p-value of 0.0003, and C-index of 0.7410, (b) Kaplan–Meier plot of test cohort, hazard ratio of 5.3620 (95% CI of 1.7011–18.5774), p-value of 0.0116, and C-index of 0.0.7214, (c) Kaplan–Meier plot of validation cohort, hazard ratio of 4.2277 (95% CI of 1.4800–12.0768), p-value of 0.0153, and C-index of 0.7112.
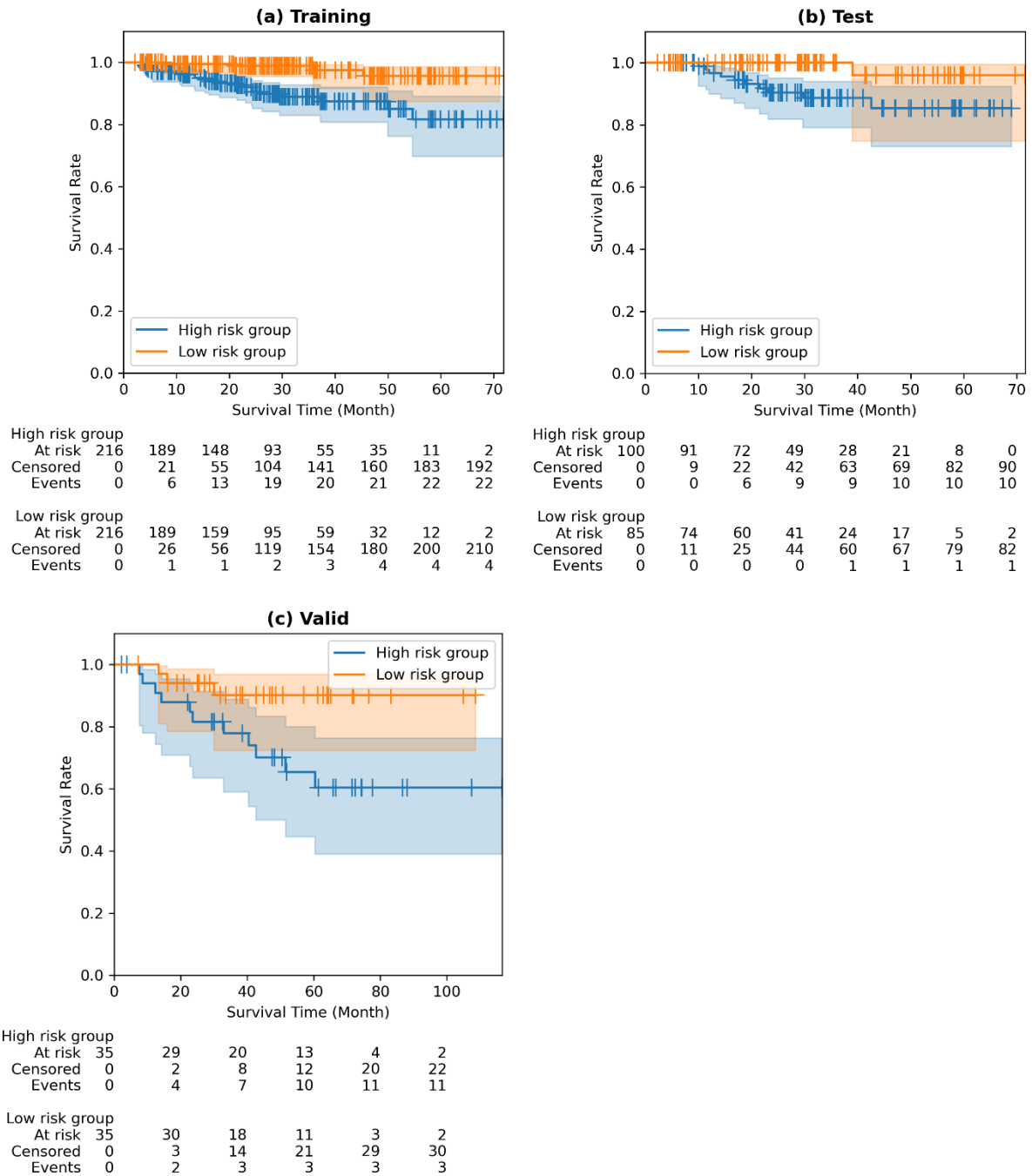
(a) Training

High risk group

At risk	216	189	148	93	55	35	11	2
Censored	0	21	55	104	141	160	183	192
Events	0	6	13	19	20	21	22	22

Low risk group

At risk	216	189	159	95	59	32	12	2
Censored	0	26	56	119	154	180	200	210
Events	0	1	1	2	3	4	4	4

(b) Test

High risk group

At risk	100	91	72	49	28	21	8	0
Censored	0	9	22	42	63	69	82	90
Events	0	0	6	9	9	10	10	10

Low risk group

At risk	85	74	60	41	24	17	5	2
Censored	0	11	25	44	60	67	79	82
Events	0	0	0	0	1	1	1	1

(c) Valid

High risk group

At risk	35	29	20	13	4	2
Censored	0	2	8	12	20	22
Events	0	4	7	10	11	11

Low risk group

At risk	35	30	18	11	3	2
Censored	0	3	14	21	29	30
Events	0	2	3	3	3	3

Figure S2. Kaplan–Meier plots of radiomics-guided DL model using VGG network. (a) Kaplan–Meier plot of training cohort, hazard ratio of 4.2454 (95% CI of 1.9658–9.1683), p-value of 0.0005, and C-index of 0.7660, (b) Kaplan–Meier plot of test cohort, hazard ratio of 4.7060 (95% CI of 1.4333–15.4520), p-value of 0.0244, and C-index of 0.0.8009, (c) Kaplan–Meier plot of validation cohort, hazard ratio of 3.5488 (95% CI of 1.2409–10.1494), p-value of 0.0362, and C-index of 0.6757.
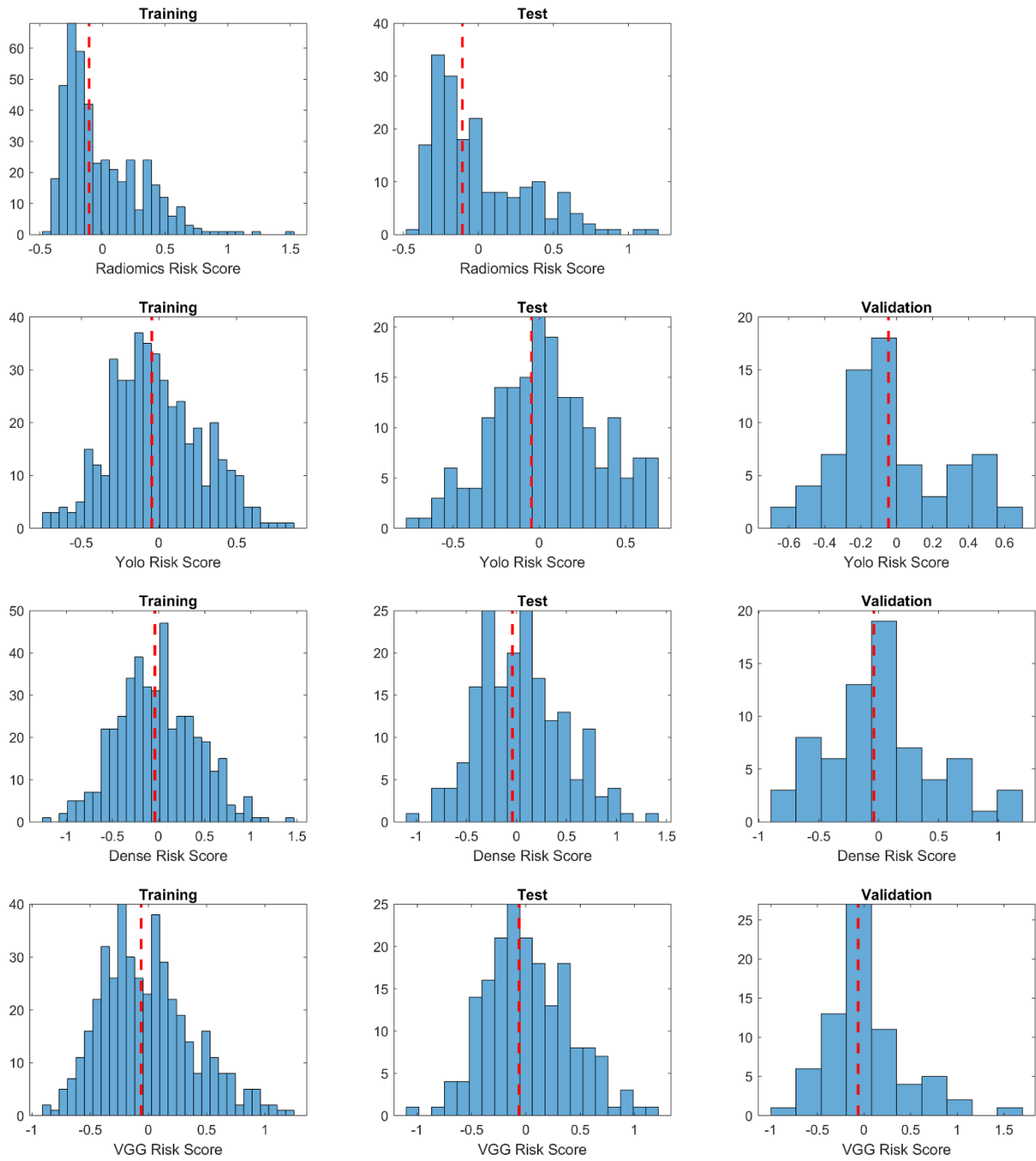
Figure S3. Plot of RRS and DRS for various approaches. The red dotted line is the median cut-off.

Supplementary Tables

Table S1. DL risk score model using Dense network for prognosis and the associated DL features.

Feature	Cox-LASSO coefficient
Dense_Latent_5092	0.0752
Dense_Latent_23965	0.1629
Dense_Latent_34596	-0.1983
Dense_Latent_34597	-0.0995
Dense_Latent_49309	0.1584

Table S2. DL risk score model using VGG network for prognosis and the associated DL features.

Feature	Cox-LASSO coefficient
VGG_Latent_9481	-0.0763
VGG_Latent_9482	-0.2061
VGG_Latent_21151	0.1891
VGG_Latent_23055	0.0385
VGG_Latent_25064	-0.0349

Table S3. Performance of various radiomics-guided DL models using features extracted from intermediate layers. We used the 80th, 150th, and 15th layers from the last layer for the Yolo, DenseNet201, and VGG19 networks.

	Training			
	Hazard ratio	**95% CI**	**p-value**	**C-index**
Yolo	4.4436	2.0300 - 9.7268	0.0004	0.7271
DenseNet	2.8972	1.3376 - 6.2754	0.0124	0.7250
VGG	3.8206	1.7645 - 8.2726	0.0014	0.7226
	Test			
	Hazard ratio	**95% CI**	**p-value**	**C-index**
Yolo	2.1897	0.6585 - 7.2817	0.3311	0.6492
DenseNet	2.6842	0.8815 - 8.8788	0.1893	0.6798
VGG	3.3727	1.0250 - 11.0974	0.0897	0.7236
	Validation			
	Hazard ratio	**95% CI**	**p-value**	**C-index**
Yolo	1.6041	0.5500 - 4.6780	0.5537	0.5192
DenseNet	2.7760	0.9703 - 7.9416	0.1019	0.7269
VGG	2.1097	0.7367 - 6.0418	0.2617	0.6294