

Supplementary Table 4: Hyperparameters of best performing models

1) Clinical Modality

Best Performing Model	SVM
Hyperparameters	
Class weights	{0: 0.56, 1: 0.44}
kernel	linear
C	1

2) Biospecimen Modality

Best Performing Model	GNB
Hyperparameters	
var_smoothing	1.0

3) Genetic Modality

Best Performing Model	LR
Hyperparameters	
Class weights	{0: 0.67, 1: 0.33}
penalty	l1
C	25
l1_ratio	0.1

4) Multimodality

Best Performing Model	SVM
Hyperparameters	
Class weights	{0: 0.96, 1: 0.04}
kernel	linear
C	95