

Supplementary Table 19 – Variable Importance for predicting BCLM PD-L1+ using primary tumor clusters. Larger values imply higher variable importance. Clusters used in the optimal model are marked with “X.”

Cluster in Primary	Included In Optimal Model	Variable Importance
pERK+	X	0.857
E-cad+	X	0.821
CD8a+PD1+	X	0.786
Ki-67+	X	0.750
CD14+		0.714
CD31+		0.696
CD163+		0.679
CD68+MMP9+		0.661
HIF1 $\alpha$ +		0.661
$\alpha$ SMA+		0.643
CD8a+PD1-		0.643
CD68+		0.625
PD-L1+		0.607
CD163+MMP9+		0.589
CD68+CD163+CD206+		0.589
CD4+PD1+		0.571
MMP9+		0.554
CD56+		0.554
CD206+		0.536
Collagen+		0.518