

Supplementary Table 11 – Variable Importance for predicting BCLM CD68+MMP9+ 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
CD4+PD1+	X	75.195
CD8a+PD1-	X	10.525
CD56+	X	10.198
CD68+MMP9+		8.573
α SMA+		3.158
CD68+		2.885
CD68+CD163+CD206+		2.364
E-cad+		0.755
CD14+		0.000
CD163+		0.000
CD163+MMP9+		0.000
CD206+		0.000
MMP9+		0.000
CD8a+PD1+		0.000
PD-L1+		0.000
Ki-67+		0.000
pERK+		0.000
HIF1 α +		0.000
Collagen+		0.000
CD31+		0.000