## **Supplemental Table 1**

Sensitivity and accuracy given specificity  $\geq$  90% and receiver operating characteristics (ROC) area under the curve (AUC) for prediction of non-pCR for manual dynamic contrast-enhanced MRI (DCE), three-component Restriction Spectrum Imaging model (RSI<sub>3C</sub>) classifier and the mean apparent diffusion coefficient (ADC) after all neoadjuvant therapy prior to surgical intervention (post-Tx time point).

	DCE	RSI <sub>3C</sub>	ADC
Threshold value	1.3 cm	0.75 cm	$0.5 \times 10^{-3} \text{ mm}^2/\text{s}$
Specificity threshold	0.90	0.90	1.00
Sens <sub>90</sub> (95% CI) Post-Tx	0.65 (0.38-0.86)	0.71 (0.44-0.90)	0.00 (0.00-0.20)*
Acc <sub>90</sub> (95% CI) Post-Tx	0.74 (0.54-0.89)	0.78 (0.58-0.91)	0.37 (0.19-0.58)*
ROC AUC	0.79	0.80	0.52

<sup>\*</sup>Specificity  $\geq$  90% is achieved by a threshold where all cases are classified as pCR (specificity = 100%). For reference, sensitivity was 0.18 and accuracy 0.41 when using a specificity  $\geq$  80%.

 $pCR = pathological \ complete \ response, \ Sens_{90} = sensitivity \ given \ specificity \ge 90\%, \ Acc_{90} = accuracy \ given \ specificity \ge 90\%, \ Tx = treatment.$