Appendix 1 Formulas of radscore

Ki-67

Radscore = -1.185 * DWISmallAreaEmphasis + 1.938 * DWIMeanDeviation + 0.803 * DWIGreyLevelNonuniformity_AllDirection_offset4_SD + 0.348 * DWIVariance + 0.798 * DWILargeAreaEmphasis + 0.651 * DWIRunLengthNonuniformity_AllDirection_offset1_SD + -0.727 * T2Correlation_AllDirection_offset1_SD + 0.226 * T2ShortRunEmphasis_angle135_offset1 + 0.884 * T2Inertia_AllDirection_offset7_SD + -0.773 * T2GLCMEntropy_AllDirection_offset7_SD + 0 * DWICorrelation_AllDirection_offset7_SD + -0.694 * T2GreyLevelNonuniformity_AllDirection_offset7_SD + -0.925 * DWILongRunEmphasis_angle0_offset4 + -0.511 * T2ClusterShade_AllDirection_offset1_SD + -0.039 * DWIClusterShade_angle135_offset7 + -0.453 * DWIClusterProminence_angle45_offset7 + 0.748 * DWILongRunEmphasis_AllDirection_offset7_SD + -0.146 * T2LowIntensitySmallAreaEmphasis + -0.002 * DWIClusterShade_AllDirection_offset1_SD + -0.148 * DWIHaraEntroy + -0.559 * DWILongRunEmphasis_angle0_offset1 + 0.298 * DWIClusterShade_angle90_offset7 + -0.408 * DWIShortRunEmphasis_AllDirection_offset1_SD + 0.497 * DWIInertia_AllDirection_offset7_SD + 0.466 * T2kurtosis + -1.919 * DWIRelativeDeviation + 0.771 * DWIHighGreyLevelRunEmphasis_AllDirection_offset7_SD + 0.335 * T2MeanDeviation + 0.593

P53

Radscore = 0.864 * DWILargeAreaEmphasis + -0.126 * DWIInverseDifferenceMoment_AllDirection_offset1_SD + -0.744 * DWICorrelation_AllDirection_offset7_SD + 0.471 * T2MeanDeviation + 0.117 * DWIShortRunLowGreyLevelEmphasis_AllDirection_offset4_SD + -0.402 * DWIGreyLevelNonuniformity_AllDirection_offset4_SD + -0.164 * T2ClusterProminence_AllDirection_offset4_SD + -0.208 * DWIClusterProminence_angle45_offset7 + 0.436 * DWIMeanDeviation + -0.11 * DWIInverseDifferenceMoment_angle0_offset7 + -0.018 * DWILongRunEmphasis_AllDirection_offset1_SD + 0.128 * DWIClusterShade_AllDirection_offset1_SD + 0.033 * DWIShortRunHighGreyLevelEmphasis_AllDirection_offset4_SD + -0.405 * T2InverseDifferenceMoment_AllDirection_offset7_SD + 0.215 * DWICorrelation_angle45_offset7 + -0.151 * T2HighIntensityLargeAreaEmphasis + 0.295 * T2ClusterProminence_angle0_offset7 + 0.445 * DWIShortRunEmphasis_angle45_offset1 + 0.252 * DWIHighGreyLevelRunEmphasis_AllDirection_offset7_SD + 0.054 * DWIGLCMEntropy_angle45_offset1 + 0.376 * T2skewness + 0.155 * DWIInertia_angle135_offset7 + 0.088

EGFR

Radscore = 0.183 * DWIClusterShade_angle45_offset7 + -0.282 * DWIClusterProminence_angle90_offset7 + 1.808 * DWIkurtosis + 1.508 * T2HaralickCorrelation_AllDirection_offset7_SD + -0.494 * DWILongRunHighGreyLevelEmphasis_AllDirection_offset4_SD + 0.618 * T2GreyLevelNonuniformity_AllDirection_offset7_SD + -1.544 * T2ClusterShade_angle0_offset7 + -0.517 * DWIHaralickCorrelation_angle45_offset7 + -0.381 * T2LongRunEmphasis_AllDirection_offset4_SD + 0.108 * T2GLCMEntropy_angle135_offset7 + -0.238 * DWIShortRunHighGreyLevelEmphasis_AllDirection_offset7_SD + 1.321 * DWISmallAreaEmphasis + -0.763 * DWIHighGreyLevelRunEmphasis_AllDirection_offset4_SD + 0.584 * DWIhistogramEnergy + -0.236 * DWICorrelation_angle0_offset7 + 0.285 * DWIShortRunEmphasis_angle90_offset7 + 0.943 * DWIClusterProminence_AllDirection_offset1_SD + 0.876 * T2MinIntensity + -0.89 * DWIInverseDifferenceMoment_AllDirection_offset1_SD + -0.243 * T2Correlation_AllDirection_offset1_SD + 1.101 * DWIHaralickCorrelation_angle135_offset7 + -0.75 * DWIMeanDeviation + 0.866 * DWIShortRunEmphasis_angle90_offset4 + -0.027 * DWILongRunEmphasis_AllDirection_offset4_SD + -0.022 * T2LargeAreaEmphasis + 0.282

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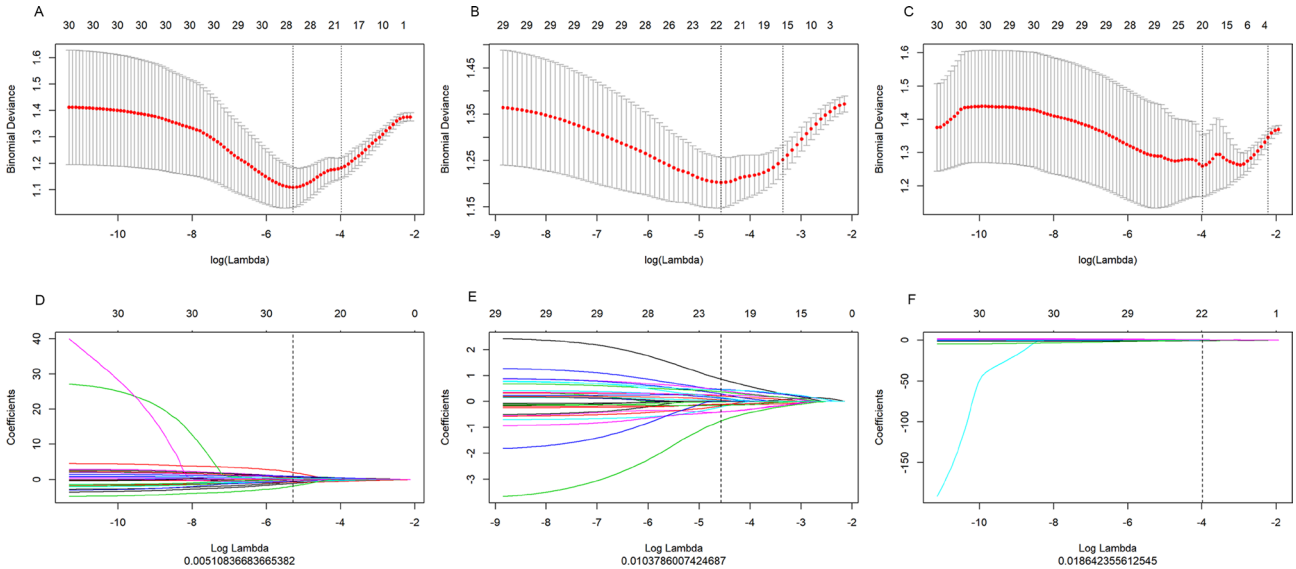

Figure S1 The LASSO procedure entailed selecting a regularization parameter λ and identifying the number of the features for Ki-67, p53, and EGFR. (A,D) Ki-67. (B,E) p53. (C,F) and EGFR.

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