

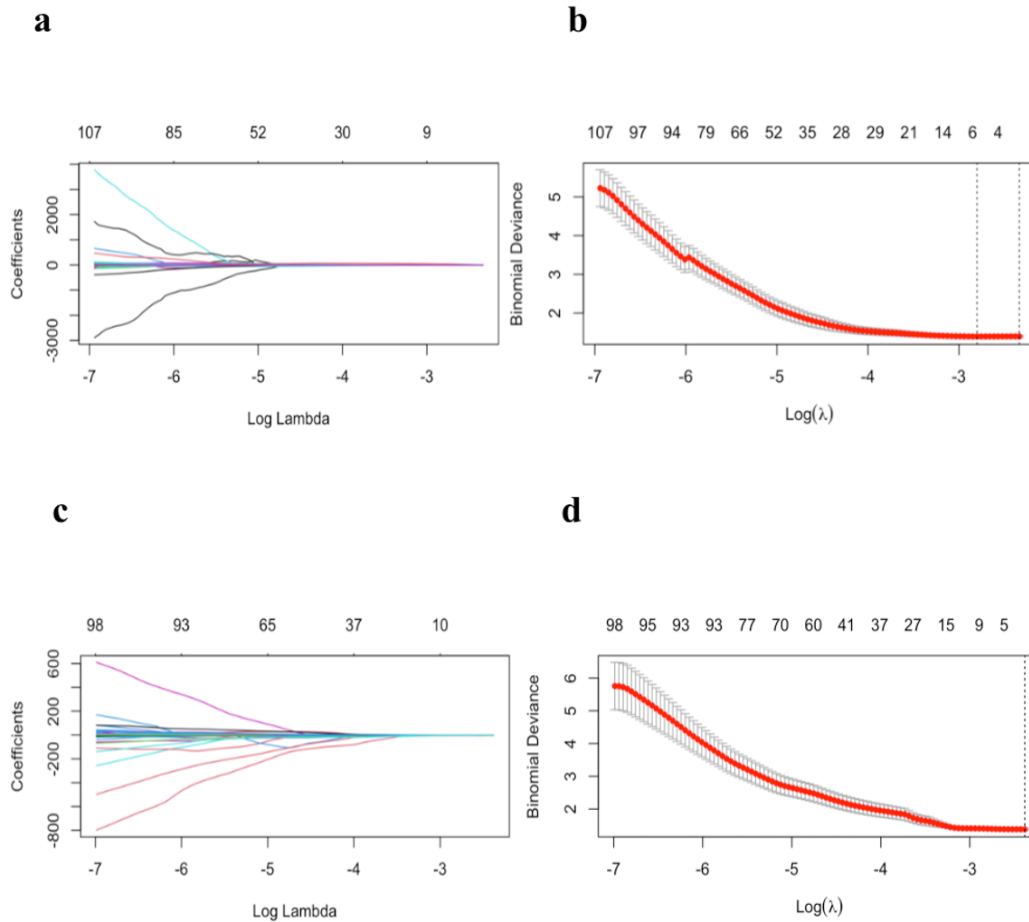
Using optimized CT type to predict histological classifications of thymic epithelial tumors: a radiomics integrated analysis

ELECTRONIC SUPPLEMENTARY MATERIAL

Supplementary Note: Rad-Score

$$\begin{aligned}\text{NE-CT Rad-score} = & 26.984 \times \text{wavelet-HLL glcm Idmn} \\ & + 3.868e^{-2} \times \text{wavelet-LHL first-order Median} \\ & + 4.811e^{-3} \times \text{wavelet-LLH first-order Mean} \\ & - 3.249e^{-2} \times \text{wavelet-LHH first-order Skewness}\end{aligned}$$

$$\begin{aligned}\text{CE-CT Rad-score} = & 5.710e^{-2} \times \text{wavelet-LHL first-order Median} \\ & + 7.921e^{-5} \times \text{glszm_SmallAreaHighGrayLevelEmphasis} \\ & - 3.413 \times \text{wavelet-HLL glrlm_ShortRunLowGrayLevelEmphasis} \\ & - 1.696 \times \text{wavelet-HLL glcm_LowGrayLevelEmphasis} \\ & - 1.201 \times \text{wavelet-HLL} \\ & \text{glszm_GrayLevelNonUniformityNormalized}\end{aligned}$$



Supplementary Fig.1 Selection of radiomics features using the LASSO regression. NE-CT (a, b). CE-CT (c, d). LASSO coefficient profiles of whole features, coefficient profiles are plotted against $\log(\lambda)$ (a, c). The tuning parameter (λ) was selected using 10-fold cross-validation based on minimum criteria, $\log(\lambda)$ is plotted on the x-axis, and binomial deviance is plotted on the y-axis (b, d). Four optimal radiomics features with non-zero coefficients were indicated in the NE-CT, and five optimal radiomics features with non-zero coefficients were indicated in the CE-CT.