**Supplementary Table 1 Overall survival-related contrast-enhanced CT features**

| Features | Phase | Coefficient |
|---|---|---|
| Original_firstorder_Variance | Arterial | 124.6013996248 |
| Log_sigma_4_0_mm_3D_gldm_dependencevariance | Arterial | 0.00627471998346555 |
| Wavelet_LHL_glszm_zoneentropy | Arterial | 0.12130155206279 |
| Original_glrlm_runlengthnonuniformitynormalized | Portal venous | -0.871725668853148 |
| Wavelet-LHL_glszm_smallareaemphasis | Portal venous | 0.0536283548164881 |
| Wavelet-LHL_glszm_zoneentropy | Portal venous | 0.0575805528740801 |
| Wavelet-HLH_glszm_smallareahighgraylevelemphasis | Portal venous | 0.0414659068276109 |

Details of the selected radiomics features: All details were collected from the Pyradiomics official website.

Image type: (1) original: No filter applied; (2) log: Laplacian of Gaussian filter, edge enhancement filter; (3) wavelet: Wavelet filtering, yields 8 decompositions per level (all possible combinations of applying either a High or a Low pass filter in each of the three dimensions.

Definitions of the feature classes: (1) first order: describe the distribution of voxel intensities within the image region defined by the mask through commonly used and basic metrics; (2) glrlm: A Gray Level Run Length Matrix (GLRLM) quantifies gray level runs, which are defined as the length in number of pixels, of consecutive pixels that have the same gray level value; (3) gldm: A Gray Level Dependence Matrix (GLDM) quantifies gray level dependencies in an image. A gray level dependency is defined as a the number of connected voxels within distance $\delta$ that are dependent on the center voxel; (4) glszm: A Gray Level Size Zone (GLSZM) quantifies gray level

zones in an image. A gray level zone is defined as the number of connected voxels that share the same gray level intensity.

Radiomics score calculation formula:

Radiomics score = original_firstorder_Variance × 124.6013996248 + log_sigma_4_0_mm_3D_gldm_DependenceVariance × 0.00627471998346555 + wavelet_LHL_glszm_ZoneEntropy × 0.12130155206279 + original_glrlm_RunLengthNonUniformityNormalized × -0.871725668853148 + wavelet-LHL_glszm_SmallAreaEmphasis × 0.0536283548164881 + wavelet-LHL_glszm_ZoneEntropy × 0.0575805528740801 + wavelet-HLH_glszm_SmallAreaHighGrayLevelEmphasis × 0.0414659068276109