

Table S1 The definitions of TPBS

Signature	Definitions
cavity/cystic airspace	An air containing space in the tumor, referring to lung tissue not invaded by the tumor
bronchus truncation sign	Air-filled bronchus manifesting as natural, dilated/distorted or cut-off at the edge of the tumor
air bronchogram sign	At least 3 air-filled bronchi manifesting as natural, dilated/distorted or cut-off within the tumor
NOBWSSM	2 cm around the tumor was taken as the safety surgical margin. Bronchioles near the tumor in the CT images were annotated and their distance to the tumor edge was measured. On the CT images, the total number of bronchioles less than 2cm away from the tumor was defined as NOBWSSM
CDFTB	The closest distance from the margin of the tumor to the edge of the bronchioles which could be observed
DFTM	The distance from the inner margin of the tumor to the midline of the mediastinum
LW	The distance from the midline of the mediastinum to the outer edge of the lung
TD	The longest diameter of the whole tumor at the lung window
NOBWSSM/TD	Number of bronchioles within the safety surgical margin based on the unit length of the tumor
CDFTB/TD	Relative distance from tumor to the bronchiole based on the tumor length
DFTM/LW	Relative distance from tumor to the mediastinum based on the lung width
DFTM/TD	Relative distance from tumor to the mediastinum based on the tumor length
LW/TD	Relative lung width based on the tumor length

NOBWSSM, number of bronchioles within the safety surgical margin; CDFTB, closest distance from tumor to the bronchiole; DFTM, distance from tumor to the mediastinum; LW, lung width; TD, tumor diameter.