

**Supplementary Table S1: features affected by delineation method concerning central necrosis**

Features affected by the choice of delineation method ( $\text{VOI}_{\text{vital-tumour}}$  vs  $\text{VOI}_{\text{gross-tumour}}$ ) indicated with a check (✓) for the different cohorts and subgroups based on NTF and  $\text{SUV}_{\max}$ . Per feature class, the number of affected features per cohort is indicated by a number. NSCLC: non-small cell lung carcinoma, PPGI: pheochromocytoma and paraganglioma, NTF: necrotic tumour fraction,  $\text{SUV}_{\max}$ : maximum standardized uptake value, GLCM: grey level cooccurrence matrix, GLRLM: grey level run length matrix, GLSZM: grey level size zone matrix, GLDM: grey level dependence matrix, NGTDM: neighbouring grey tone difference matrix.





Run entropy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Run length nonuniformity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Run length nonuniformity normalized	✓	✓	✓	✓	✓	✓		✓		✓
Run percentage		✓	✓		✓	✓				✓
Run variance		✓	✓	✓	✓	✓		✓		✓
Short run emphasis	✓	✓	✓	✓	✓	✓				✓
Short run high grey level emphasis	✓	✓	✓	✓	✓	✓	✓	✓		✓
Short run low grey level emphasis	✓	✓	✓	✓	✓	✓	✓	✓		✓
GLSZM (16)	11	13	12	12	15	9	7	11	12	
Grey level nonuniformity				✓	✓					
Grey level nonuniformity normalized	✓	✓	✓	✓	✓	✓	✓	✓		✓
Grey level variance	✓	✓	✓	✓	✓	✓	✓	✓		✓
High grey level zone emphasis	✓	✓	✓	✓	✓	✓	✓	✓		✓
Large area emphasis		✓	✓	✓	✓				✓	
Large area high grey level emphasis	✓	✓	✓	✓	✓	✓	✓	✓		✓
Large area low grey level emphasis		✓			✓					
Low grey level zone emphasis	✓	✓	✓	✓	✓	✓	✓	✓		✓
Size zone nonuniformity										✓
Size zone nonuniformity normalized	✓	✓	✓	✓	✓			✓		✓
Small area emphasis	✓				✓					✓



Small dependence low grey level emphasis	✓	✓	✓	✓	✓	✓	✓	✓	✓
NGTDM (5)	4	4	4	5	5	2	2	4	4
Busyness	✓	✓	✓	✓	✓	✓	✓	✓	✓
Coarseness				✓	✓				
Complexity	✓	✓	✓	✓	✓	✓	✓	✓	✓
Contrast	✓	✓	✓	✓	✓			✓	✓
Strength	✓	✓	✓	✓	✓			✓	✓
Total (105)	83	86	68	71	84	75	59	69	73