Title: Automated tumour budding quantification by machine learning augments TNM staging in muscle-invasive bladder cancer prognosis.
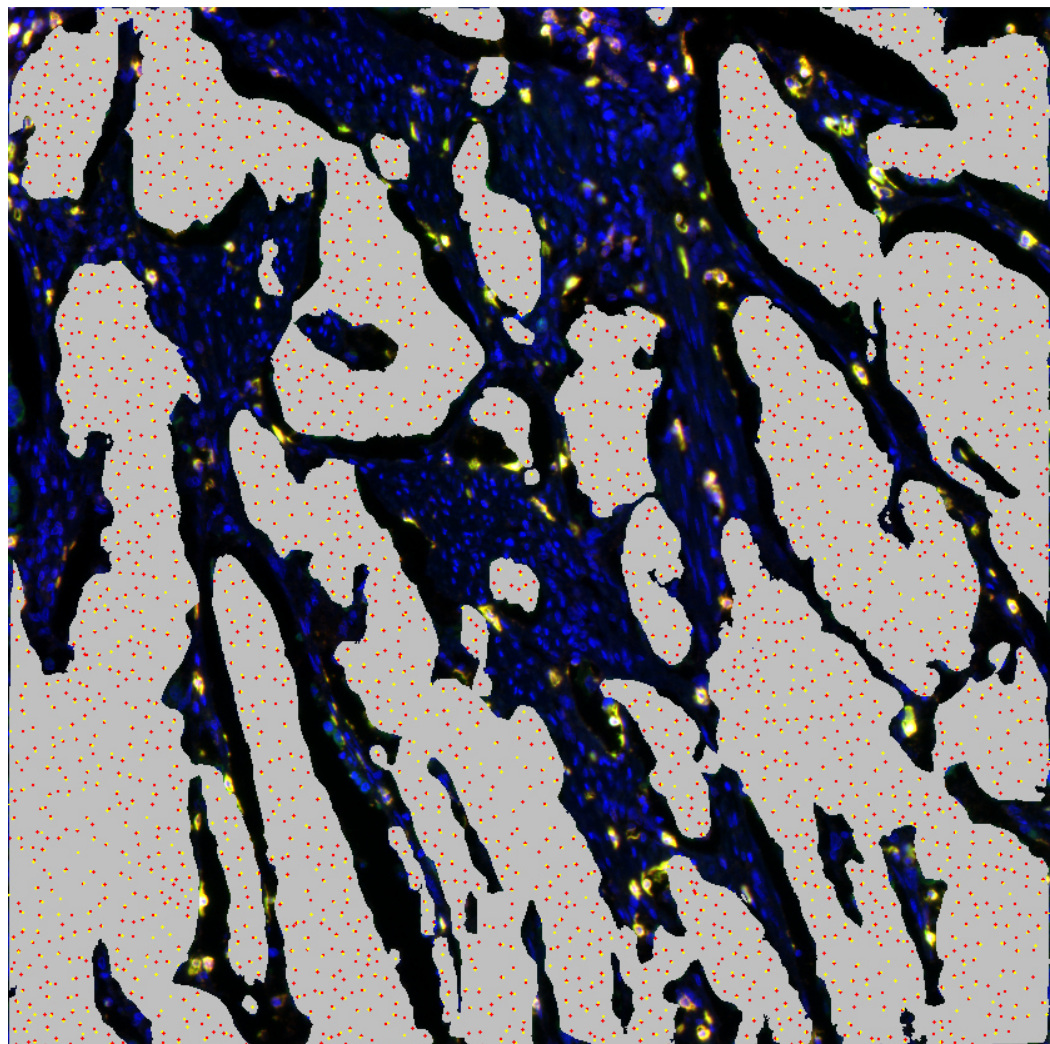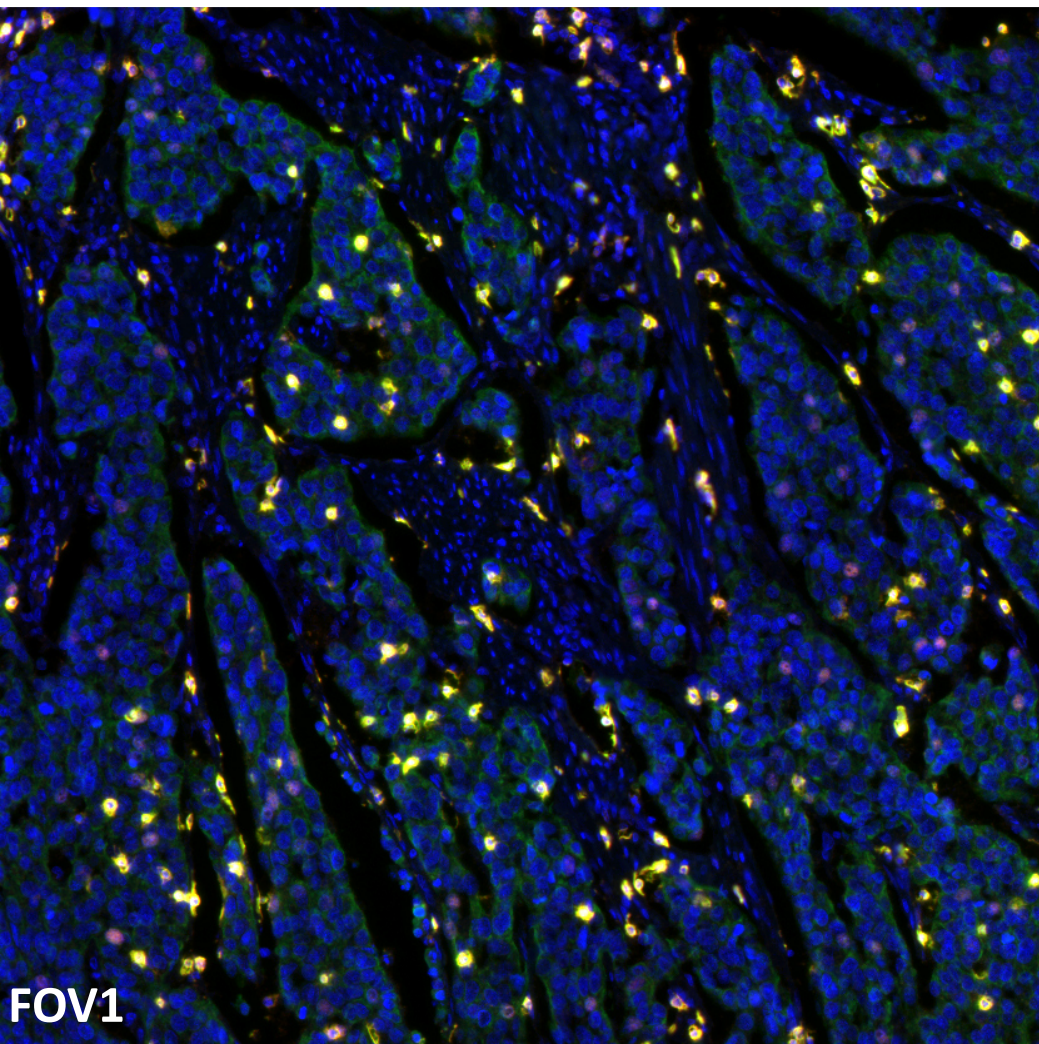
Authors: Brieu Nicolas[1], Gavriel G Christos[2], Nearchou P Ines[2], Harrison J David[2], Schmidt Günter[1] and Caie D Peter[2]*

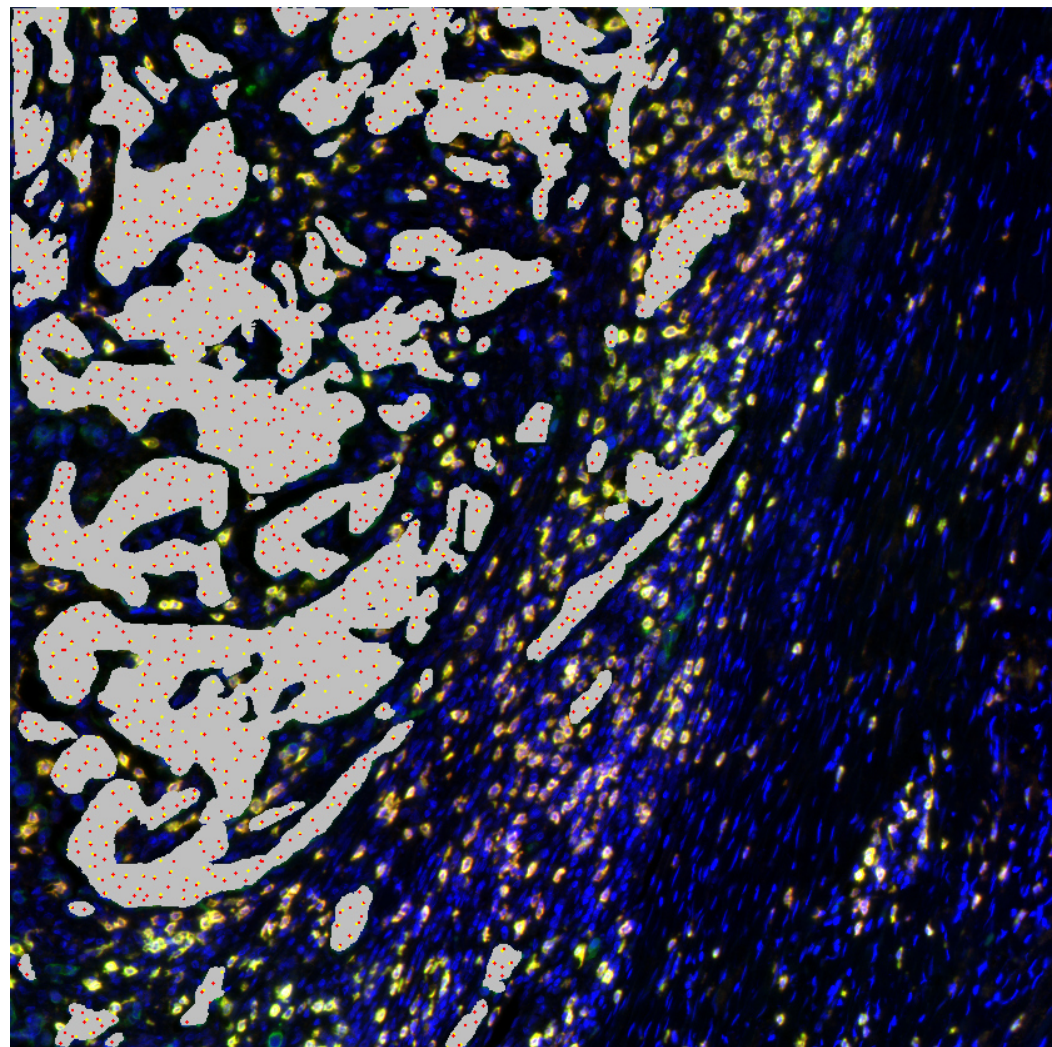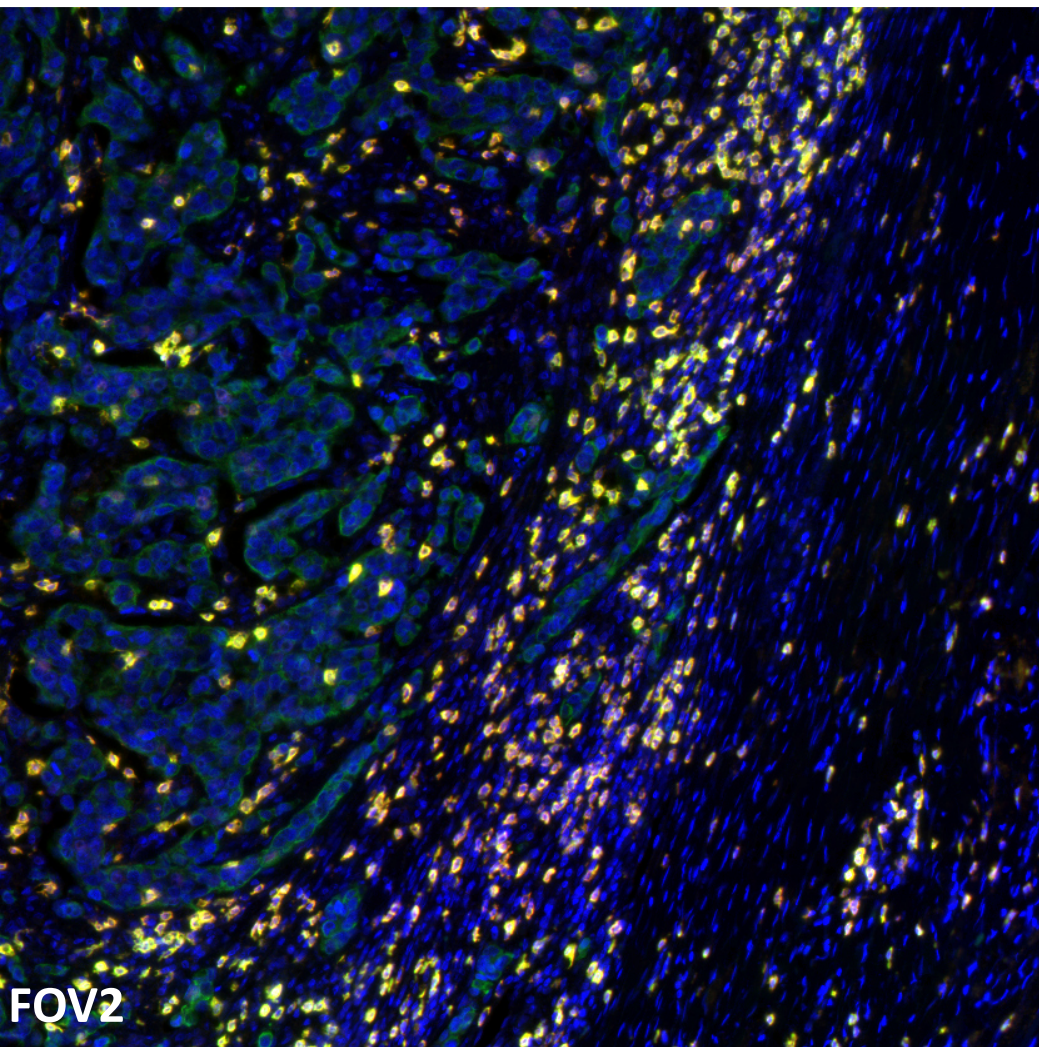[1]Definiens AG, Bernhard-Wicki-Straße 5, 80636 München, Germany.

[2]School of Medicine, University of St Andrews, North Haugh, St Andrews, Fife, KY16 9TF, UK.

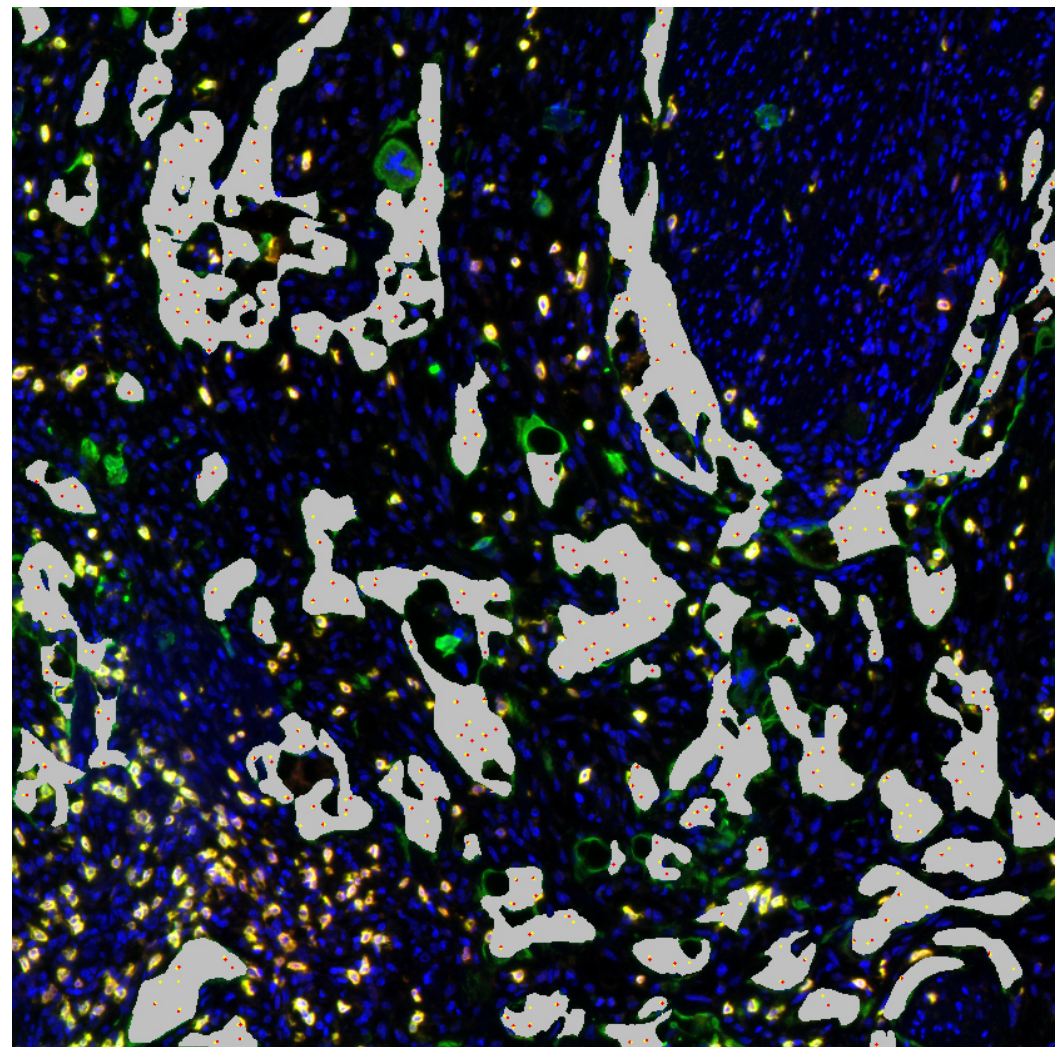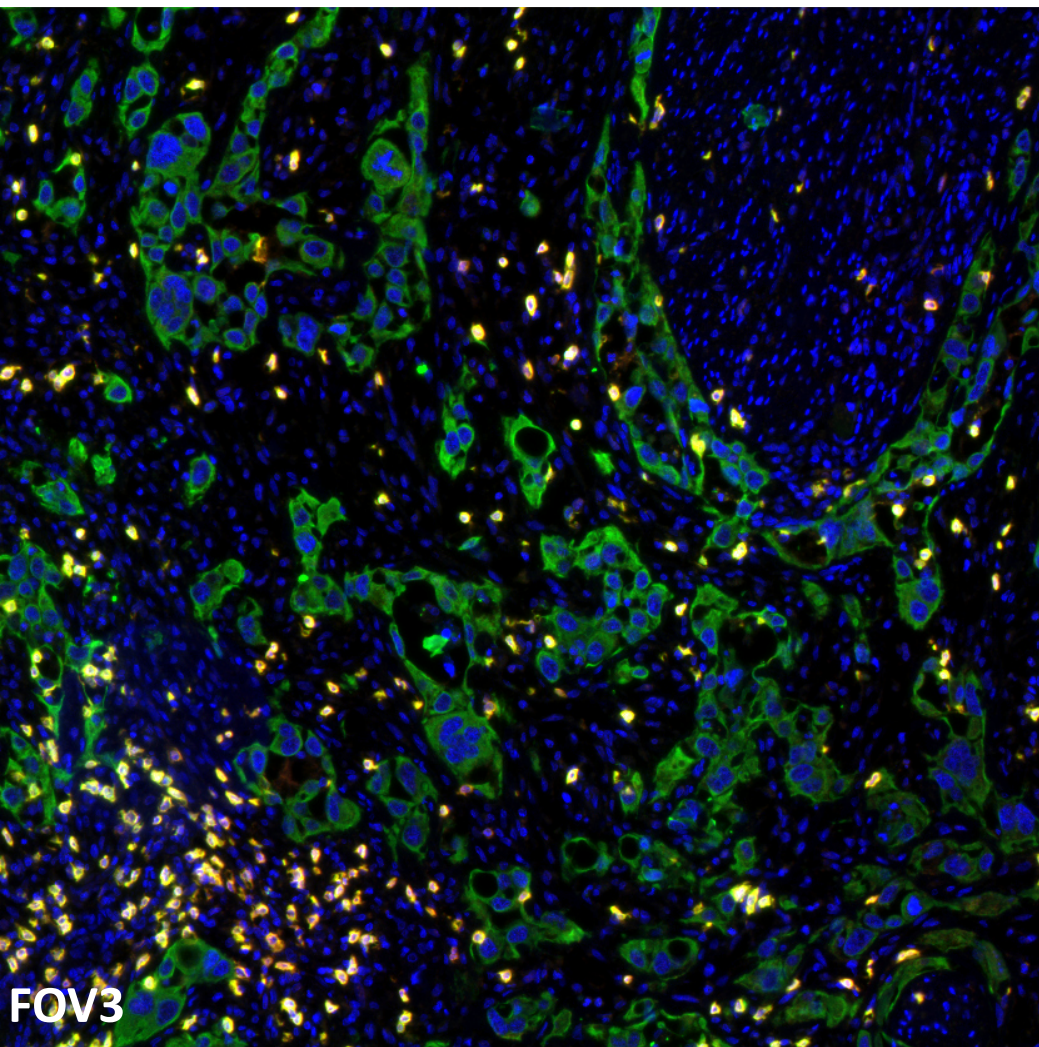Brieu Nicolas and Gavriel G Christos contributed equally to this work.

Supplementary Material M3. Qualitative results of the nuclei detection algorithm, on the first 5 FOVs provided in supplementary materials M2-M7. Red dots indicate manually annotated nuclei, yellow dots indicate automatically detected nuclei.
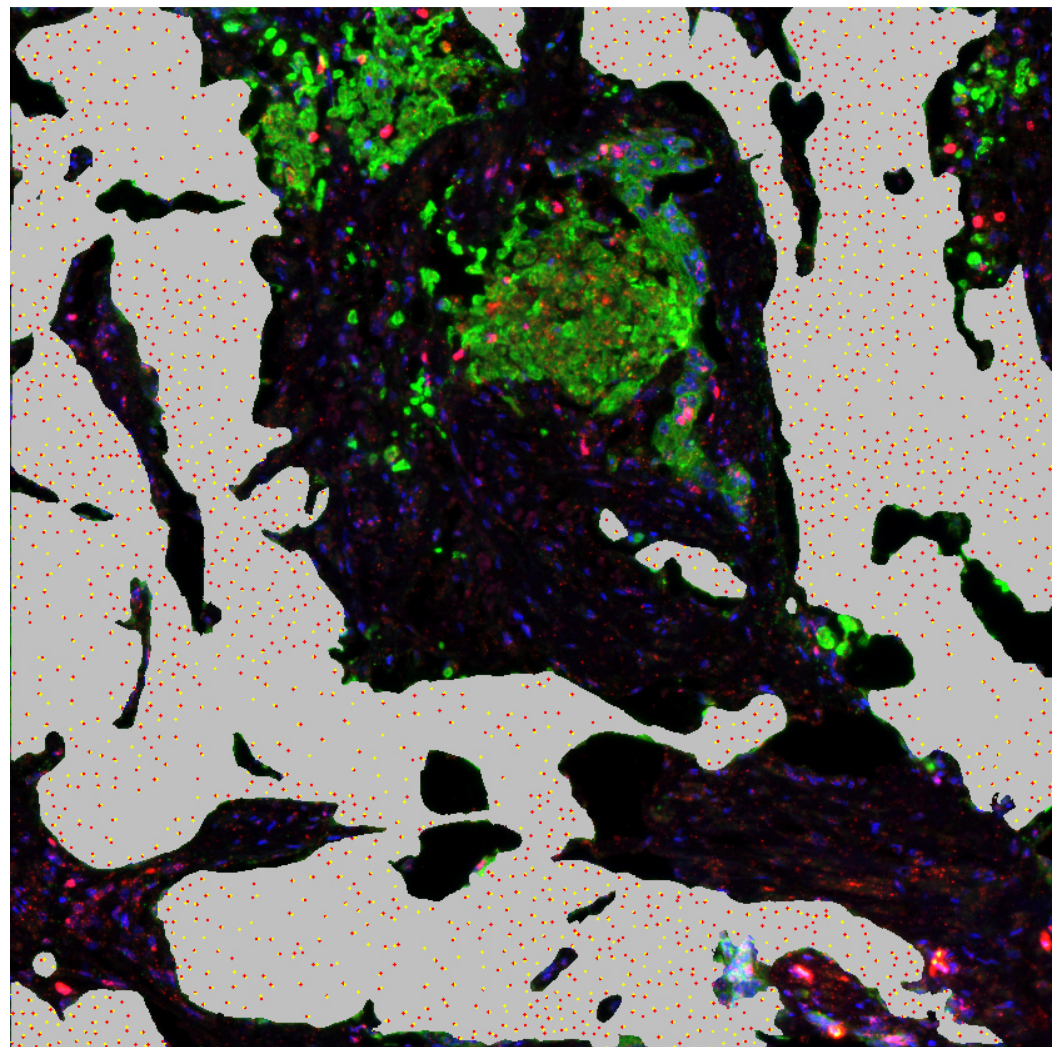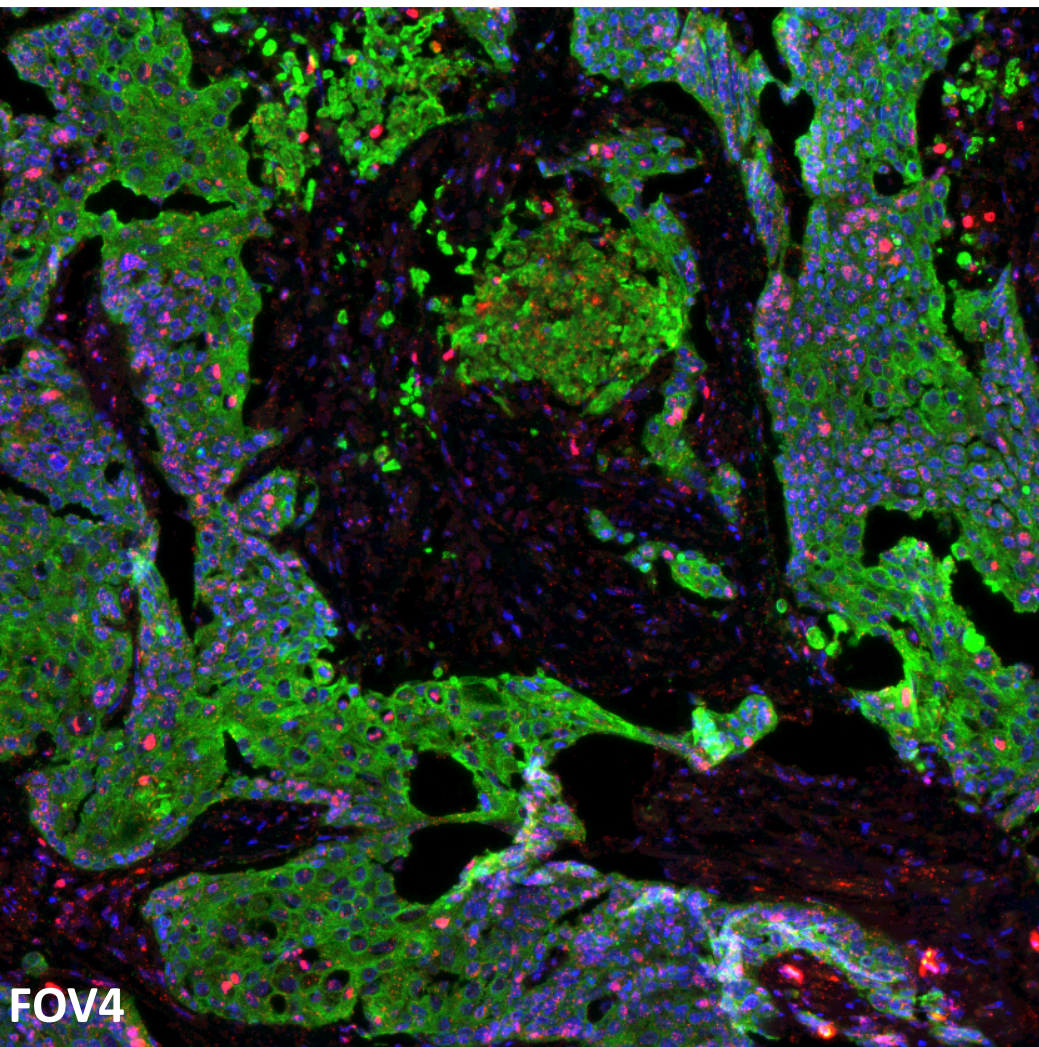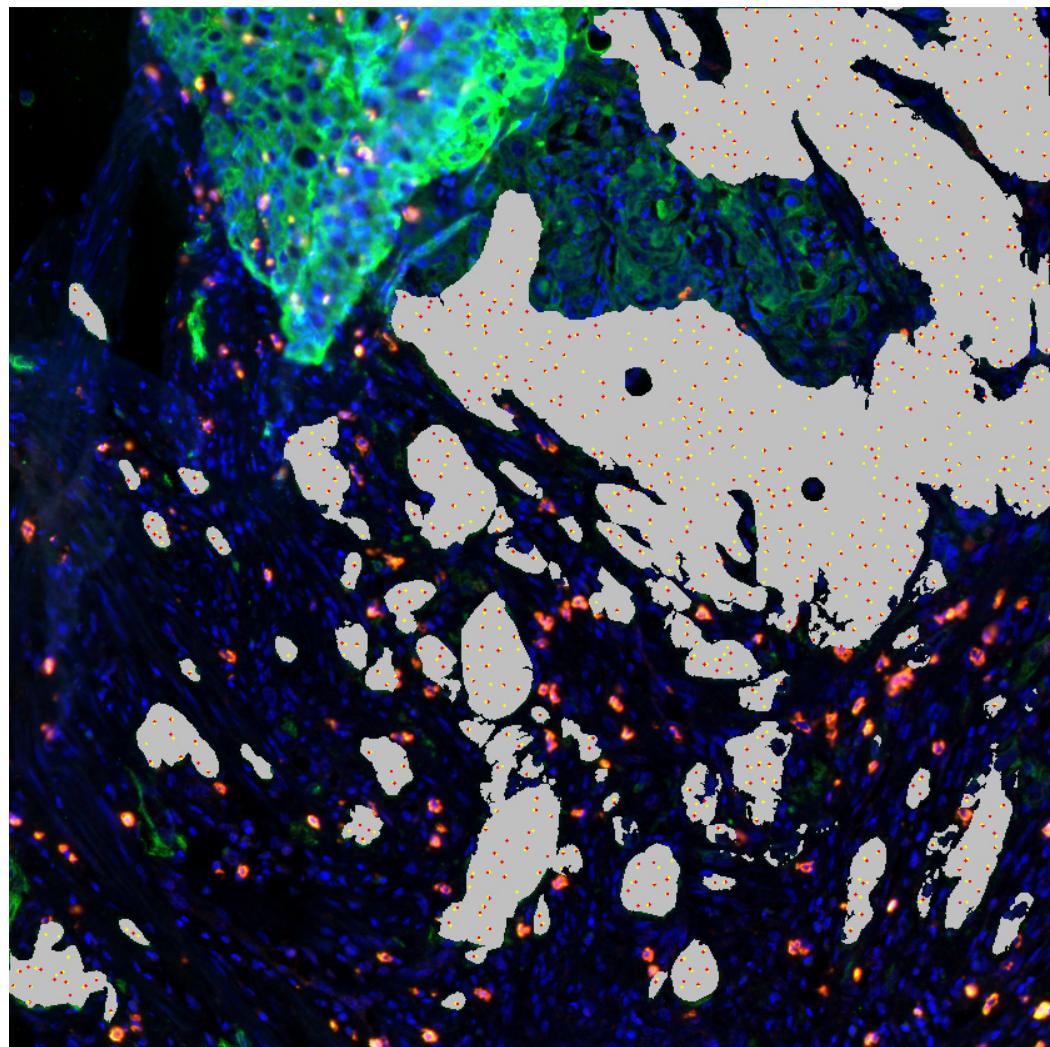
FOV1

● True   ○ Detected

FOV2

● True   ● Detected

FOV3

● True   ○ Detected

FOV4

● True   ● Detected

FOV5

● True   ● Detected