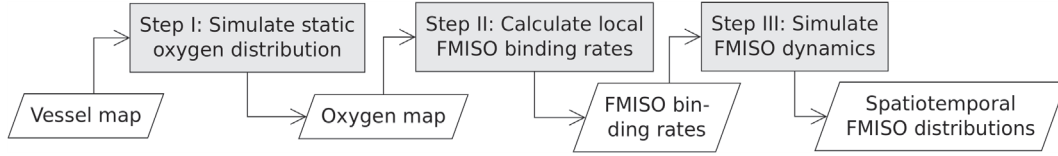
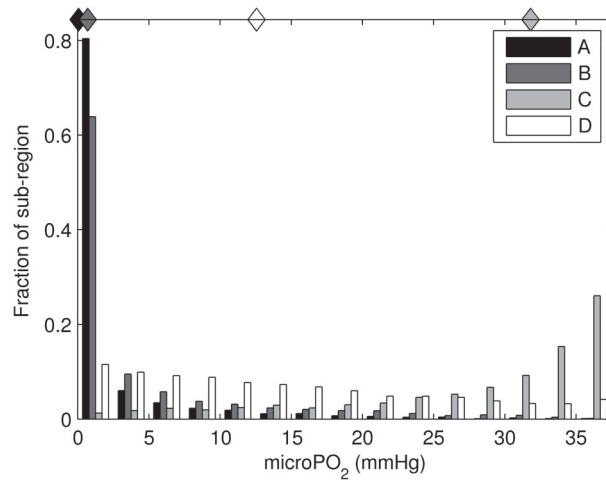


Supplementary material for Mönnich D., et al. Correlation between tumor oxygenation and ^{18}F -fluoromisonidazole PET data simulated based on microvessel images, *Acta Oncologica*, 2013, 52:1308–1313.



Supplementary Figure 1. Outline of the simulation of tissue oxygenation and FMISO dynamics in multiple steps. I: A steady state oxygen map is simulated in a histology-derived vessel map. II: This map serves as input for the calculation of local PO_2 -dependent FMISO binding rates. III: These rates are the input for the simulation of FMISO diffusion and retention.



Supplementary Figure 2. Histogram of simulated micro PO_2 values in $2 \times 2 \text{ mm}^2$ sub-regions. Regions A and B are depicted in Figure 1, C and D are not shown. The respective median PO_2 values are marked on the top axis.