**Supplementary Figure 1: Trial flow – CONSORT diagram.**

\*In Arm A, a delay in receiving the 18F-FMISO doses resulted in low-dose administration (due to radiation decay) in three post-WoO PETs; four patients refused to undergo the second PET, and five PET studies were not possible to reconstruct. The total number of patients with available RCB and two correct serial 18F-FMISO-PETs before and after the WoO available was therefore 49. The reason for not being able to quantify the acquisition during the analysis was the use of a small field of view (not including the breast) during the PET acquisition in all the patients from one study site for approximately half of the study length. This error was detected and corrected.

In Arm B, the PET acquisition was not possible to reconstruct in four cases. The total number of patients with available RCB score and evaluable 18F-FMISO PETs was therefore 58 in Arm B.